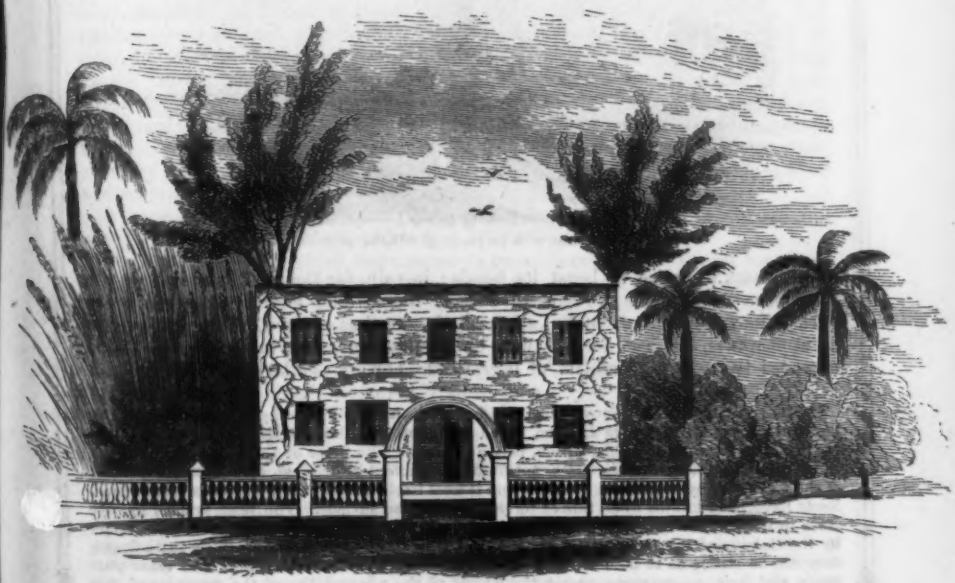
A Trip to Cuba and the Southern States, No. 3.

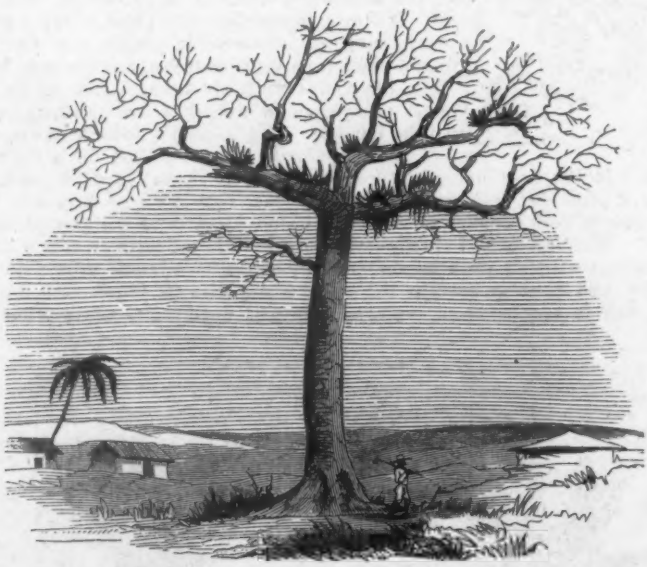
"Blossoms and fruits at once of golden hue
Appear'd, with gay enamell'd colors mix'd."

THE Bishop's garden has been abandoned to take care of itself, the Cubans having cut down his salary from one hundred thousand dollars a year to fifteen, yet it still presents scenes of great beauty, which the rapid vegetation going on all around must soon obliterate. Here we first saw the Bamboo, growing in large clusters in a moist spot. It is an extremely beautiful plant, of rapid growth, soon forming an impenetrable jungle, and yielding a grateful shade from the midday sun, now (in early March) a little oppressive when not accompanied by the usual breeze. Employed for a shady avenue, nothing can exceed the Bamboo. The Bishop's house here was a very small one, apparently only employed for a day's residence. It has been unroofed (probably by a hurricane), and, at each front corner, a plant that is becoming a tree, has taken root in the coral rock of which the house is built, and its roots have descended nearly to the ground, as seen below. When the plant has fully established itself in the earth (it is now like the air-plants, sustaining itself on the moisture of the air), it will grow with great rapidity, and possibly envelop the whole house with its fibres. As this kind of growth is very common, we shall take this opportunity of describing the



THE BISHOP'S HOUSE IN THE DESERTED GARDEN.

process that is going on on thousands of the trees, but, especially, the very large Ceiba. The plant is epiphytical on other trees.* The Spaniards call it Jaquey (pronounced Hawaia). The seed lodges in a high crotch of the Ceiba, takes root there, and immediately begins to envelop downwards the huge trunk with a delicate network of roots that gradually get a footing at the bottom of the tree it has invaded; and now begins the wonderful process. The network spreads rapidly, and has the remarkable faculty of *welding* itself into one continuous, smooth bark. The Ceiba resists the embrace of the boa constrictor that has attempted his conquest, and a contest ensues; the Ceiba swells out at any neglected point,



The Ceiba-tree, with air-plants growing on its branches.

and appears to desire to burst its bonds; in vain, for the plant is uniformly the conqueror. Very soon the smooth bark of the invader has encompassed every part of its support, and, finally, all the limbs are thus covered, and *a new tree*, to all appearance, has been formed, with its peculiar leaves waving in the air. This new tree is really the emblem of ingratitude, having swathed its benefactor for

* This epiphyte is the Ficus Indica occidentalis, and another is the Clusia alba. "The latter grows on rocks," says Loudon, "and frequently on the trunks and limbs of trees; the birds scattering the seeds, which, being glutinous like those of the Mistletoe, take root in the same manner: but the roots, not finding sufficient nutriment, spread on the surface of the tree till they reach the ground, where it fixes itself, and the stem becomes a large tree. Roots have been known to do this at forty feet from the surface. The resin is used to cure sores in horses, and instead of tallow for boats." *Loudon's Encyc.*, p. 867. A swing is made by the Cubans of the roots of the Clusia; when they are half the size of one's little finger, they are so strong as to hold three stout men. They are useful for traces and other purposes, and form an example among thousands of the adaptability of the products of this region to the wants of man. (*See* "Editor's Table.")

support, and obliterated him entirely. The phenomenon, in all its stages, was a constant source of astonishment to our little botanical party.

The Ceiba is also the fruitful bearer of innumerable air-plants, which cluster on its branches, and display their gorgeous flowers on premises not their own.*

The Ceiba bears no resemblance to any of our own trees. It is remarkable in its formation just above the roots, where the body resembles a tripod, imperfectly represented in the drawing; it has in fact three hollows and three corresponding long protuberant supports, between each of which several men could readily shelter themselves in a heavy gale. The air-plants have a secure resting place, the height of the tree and its limbless trunk making them very inaccessible. The Ceiba is not very useful, its only product being a kind of wool from its seed pod, which is used by the poorer classes to stuff pillows and chairs, but is generally thought unwholesome to lie upon.†

Among the most agreeable hours spent in Havana, we should be most ungrateful if we were not to place on record the time passed with *Don Francisco Sauvalle*, an extensive planter, but to be distinguished in science when most other planters will have left no other mementos than their bones. Mr. Sauvalle is a botanist of that true kind who find their reward in the pursuit of the delightful study. He has taken up the topic of the trees of Cuba, and, wonderful to relate, he has drawn and described no less than seven hundred, excluding shrubs, for which he has not yet found time; but, more wonderful still, he is in the midst of his pursuit, and can yet see no termination to his labors. He finds thirty native palms on the island, though, if we remember rightly, several of the best previous botanists describe less than half the number. With estates in different parts of the island, and leisure for study, this gentleman has done, and is doing, for Cuba what the Michauxs (father and son) did for the United States; but he has, in a smaller space, a much greater field, so extraordinary is the vegetation, and so much greater the number of species. Mr. S. has no view of publishing, at least for the present, and when we urged upon him the importance and utility of such a step, he thought it would be delegated to his sons. Their great and growing intelligence will, we trust, carefully treasure the valuable scientific knowledge their father is accumulating, and give it to the world; for, strange as it may seem, even the trees of Cuba are (very many of them) unknown, and if this is so, what undiscovered treasures must exist among plants of smaller growth!

Among much miscellaneous information elicited by questions to Mr. S., we noted down a few particulars, which may interest:—

The cedar wood, of which there seems to be an inexhaustible supply for cigar-boxes, is the Cedrella odorata. It is one of the most valuable and useful trees of the island (if not the most so), from its extraordinary durability. They say it never rots; its uses are consequently very various. Employed in the place of mahogany, it makes the beams of houses that are so prominent an object in the ceilings, where they are carved or plain as taste or wealth dictates. The polished doors of houses are also made of this, having the color, but not the veining of mahogany.

There is another tree, that has the novel property of keeping on fire after it is dried. The highest wind will not extinguish it, and, of course, its value is great,

* When enveloped by the giant, these plants are all swept away.

† This is the *Bombax Ceiba*, and is one of the tallest trees of both Indies; the wood is very light, and is used for canoes, their trunks being so large, that, when hollowed, they make very large ones, frequently carrying from fifteen to twenty hogsheads of sugar. When the tree decays, it becomes a nest for the Macaca beetle, the caterpillar of which, when fried, is esteemed by many persons as one of the greatest delicacies.

under certain circumstances. Another (the *Quibra hacha*, or Break-Axe), is of so hard a texture that the best axe yields before it can make an impression. This is the hardest wood in the world, and might be made very useful in the arts. The Vomitel (*Cordia speciosa*) bears a thick, leathery leaf, which is found invaluable for polishing turtle-shell—an extensive produce of the southern portion of the island.

There are several species of Cinchona in Cuba, but the true bark for extracting the quinine is not found. The best oranges, in the interior, where transportation is yet difficult, are sold for one dollar the thousand.

Cocoa-nuts, where the same impediment exists, are plenty, at one cent each. Castor-oil is a valuable article of commerce, and the plant is cultivated extensively.

The coffee-tree bears about half a pound to a pound to each tree, and may average six hundred pounds to an acre. It begins to produce the third year, and the fourth is profitable. It ripens its pretty berries in September, but has some fruit on at all seasons, even when in full bloom; this period is its most beautiful one. The plant resembles a myrtle, and its white blossom is superb. It requires shade, and every other hill is a banana or plantain, the two latter repaying all the culture necessary. The Cuban coffee is most esteemed in Spain; its present price is about sixteen cents. The best is produced in the red earth with which the country so abounds. The coffee lands vary much in price, from ten dollars the acre to one hundred and eighty; for thirty, good land can now be purchased. The coffee estates, having more shade around, are much more ornamental than those devoted to sugar.

With a little care, the grape would produce profusely; and all the better kinds, grown with so much attention in our graperies, might be had, as has been proved on a small scale, for the planting, but for the sloth and ignorance of the people. They import peach and strawberry preserves in quantities, though both fruits will succeed, as will the apple. Our pears do not grow well. The Alligator Pear (*Laurus gratissima*) is a celebrated production. It has a trunk as large as our apple-tree; the bark is smooth, and of an ash color; branches, succulent and soft, set with large, oblong, smooth leaves, like those of a laurel, of a deep-green color. The fruit is the size and shape of one of our largest pears, the pulp covered with a tough, skinny coat, and contains a large, rugged seed, wrapped in membranous covers. It is held in high estimation. The pulp is of a pretty firm consistence, and has a delicate, rich flavor; it gains upon the palate of most persons, and becomes soon agreeable to those who cannot like it at first; but it is so rich and mild, that most persons make use of some spice or pungent substance, to give it a poignancy; and for this purpose, some make use of wine, some of sugar, others of lime-juice, but most of pepper and salt. This fruit is equally agreeable to the horse, the cow, the dog, and the cat, as well as all sorts of birds; when plentiful, it makes a great part of the delicacies of the negroes.

The exported orange is not indigenous, there being no native sweet orange in Cuba. The "Sour Sweet" is native, and is a tolerably good fruit, of the same appearance as the best kind. Not being in demand, and the tree a very handsome one, it is cultivated for its beautiful bearing, and represents the true article when that has become scarce. Its juice is employed extensively to clean harness, and to wash the pet volante, to which it gives a great *shine*. It also cleans shoes, and wipes up the floors, which receive great freshness from its application. Our coachmen, we observed, generally contrived to conceal under the seats a peck or two of these beautiful but almost valueless golden fruits. The best orange they call Naranjo de San Jose. The Limoncella is a small lemon, of the size of a sixpence, of a reddish color, and is the *Limonia trifoliata*.

The tree most planted for shade in and around Havana, resembles a poplar in appearance and leaf; on investigation, it turned out to be the *Ficus religiosa* (the poplar-leaved Fig), and a most excellent shade-tree it is, bearing no fruit.

A species of cochineal is found, in a wild state, in various places; no cultivation of the true insect is attempted, though it might undoubtedly be successful.

Asparagus grows rampantly, but there is little or no attention paid to this and many other important vegetables. The inhabitants say there is little encouragement for this and the best productions of the gardens, as the mode in which their tables are supplied prevents their ever getting a taste of the best articles. A cook is hired to supply a table of a given number of persons, at so much a month. He or she is to give daily so many dishes of meat, so many of vegetables, and such a variety of fruit. This official goes to market as economically as possible, purchases the stale articles, and pockets the profit therefrom. It was just so at our hotel, where the peas were always yellow, though an abundance of better were to be had in market, as we verified by actual inspection. The arts of living, which here could be turned to so much account, appear to be all thrown away. As for butter, the article is rarely made by the Cubans, and as much as is needed to *ornament* the tables frequented by Americans, is imported; what it becomes by the time it is offered to customers, may be judged by a sample that accompanied us in the Isabel. It was contained in the half of an empty flour barrel, which was in proximity with the heat of the steam-engine during the voyage; tied over with a piece of brown paper, it descended with the baggage of our party into the shore boat, when a passenger, a little late in his arrangements for departure, in a hurried moment, thinking it was a trunk, stepped into it, withdrawing his boot well buttered. We had to presume that what the boot did not require to cover it, was served at our table thrice a day. Such is retailed for fifty cents the pound.

Vegetables, strange as it may appear, are a very dear product. Peas (such as would scarcely sell at all among us) were worth five dollars the bushel; beets, ten cents each; eggs commanded forty cents the dozen; milk, ten cents the quart, and poor enough; beef (very inferior) commands fifteen to twenty-five cents the pound, mutton twenty, and pork uniformly twenty-five. The above prices are certainly very remunerative; the temptation of the high wages of labor for the sugar estates, however, is constantly operating to draft the workmen from the gardens, and cigar making, in the shade, is preferred by all who can, by skill, get into that employment. Some Americans, when they hear of these prices, are tempted to procure land, and raise vegetables for the Havanese; we have yet heard of no great success in this line. We left an active young man, from the State of New York, who was negotiating for one hundred acres near the Bishop's garden, for the purpose, and who felt sure of realizing a fortune in such a climate, where the truck seemed to grow spontaneously, or with only moderate care.

These notes are extending beyond the original design, but as they appear to be acceptable to our readers, they will be continued.

FRUIT CULTURE.—THE ORCHARD HOUSE.

BY WILLIAM SHIPLEY.

In all establishments of any pretension, we have numerous structures for the cultivation of fruits, but, amongst modern inventions, there are none so useful to the amateur as the orchard house, which was brought into existence by that excellent fruit cultivator, Mr. Rivers, of Sawbridgeworth, Herts., to whom we are also

indebted for much valuable information on fruits, and for the introduction of many new varieties. The orchard house is for protection from severe spring frosts, such as we have had of late years. Mr. Rivers's first houses were erected against some old yew edges, which formed the back, and these houses were found to answer their purpose to a certain extent, in the cultivation of the more hardy fruits, such as plums, &c.; but Mr. R.'s later erections are constructed with boarded sides. The first cost of such houses certainly would not be much, but I think they will eventually be found dearer than properly built brick and mortar walls. Most orchard houses hitherto erected, are without any heating apparatus, which I also think is false economy; for the plants in such structures must naturally be forwarder than those out of doors, and the frost has much power in a house of this sort, if means are not taken to keep it out; but it must be borne in mind, that orchard houses are a new invention, and far from that perfection which we may expect they will ultimately reach. My idea of a good house is, that it should be built span-roofed (say twenty feet wide), and as long as the proprietor pleases. The height from the ground to the eaves should be about six feet, the lower three feet of which should be of brick, and the upper of glazed sashes, made to open, for the purpose of ventilation. A three-feet border, in which trees may be placed, might run round the house; and the path should be three feet wide, which would leave eight feet for the centre border. The flue, or hot-water pipe, should be placed on or in the path. It has been the practice, hitherto, to grow the trees in pots, several nurserymen having prepared many trees well furnished with bloom buds for that purpose, and thus secured a crop of fruit the first year; but how this method will succeed, is at present a matter of uncertainty. For my part, I am very doubtful of its propriety, as I fear the trees will not continue to produce good crops many years, if grown in pots, while, if planted in the borders, success would be certain, as they may be kept dwarf by proper pruning, and removing and root-pruning every two or three years, which might be done without at all injuring them. Another means of keeping the trees dwarf, is the proper selection of stocks to work the different fruits on, as, for instance, the Pear on the Quince, the Apple on the Paradise, the Cherry on the Mahaleb, and the Plum on the Black Thorn. Most fruits may be successfully grown in an orchard house, including Apples, Pears, Peaches, Nectarines, Plums, Apricots, Grapes, Figs, and Strawberries, besides what may be had in the way of choice flowers and vegetables; and thus it will be seen that the amateur possessing one of these structures, may command a good variety of fine fruits at but little expense. With regard to the management of the orchard house, every attention must be paid to proper ventilation, which is most essential, and provision must be made for admitting air both by the side and top lights. If the side lights can be all removed, sufficient air may be given without allowing cold draughts, by keeping them closed on the side the wind would enter. Watering must also receive due attention, as the trees might be soon damaged either by an excess of moisture or the want of it. Another important point is to keep the trees properly pruned and the fruit properly thinned, removing all that is not required as soon as it is set, before it begins to damage the trees.

VISITS TO COUNTRY PLACES.—NO. 12.
AROUND BALTIMORE.

Dr. Thomas Edmondson, who has paid the debt of nature since we were there, possessed a collection of plants which had few (if any) competitors for variety and value in this country. His collection has been sold, in one lot, to Mr. Winans,

who has prepared extensive houses for its reception, and who undoubtedly possesses the finest and most rare hothouse in North America. Great disappointment was expressed that the plants were not sold separately, as a large company had assembled, to procure individual specimens. Mr. Winans swept the whole at a small advance, on the low valuation of $2,385.

We noted the following, for their rarity:—

Fircrea gigantea; nine feet in diameter and ten feet high.
Cactus Braziliensis; twenty feet in height.
Ficus reptans.
Banana Cavandishii; in bearing.
Stigmaphillon ciliatiana.
Muscienda frondosa.
Hakea Victoria; resembling the Salisburia.
Weigelia amabilis; an old plant, and in full bearing.
Magnolia grandiflora; a large plant; somewhat injured by the winter of 1855–6.
Stenocarpus Cunninghamia.

One of the most extraordinary things in these grounds, and one of the most beautiful we ever saw, was an Osage Orange-tree, about twenty-four years old. Its leading shoot had been destroyed, and it had become recumbent to a surprising degree. By pacing the circumference over which it had spread itself, we found it covered the space of *one hundred* and sixty-five feet! It is highly ornamental in this condition, and was full of fruit. The limbs laid about with a profusion that was positively beautiful and wonderful. We recommend experiments with this tree where a large space (say a circular drive) is to be filled.

Here, too, we gratified a long wished-for inspection of Dr. Edmondson's seedling camellias, which have stood out for twelve or fifteen years in the open air, protected only by leaves thrown over them. They were cut down to the snow-line, the last winter, but were again growing vigorously, and sending up tufts of leaves more beautiful than mahonias. Would that our own climate might be favored with such a result. Dr. E., as already stated, was famous for possessing some extraordinary seedling strawberries of his own raising. The Marylandica constantly took the prizes, and other sorts were in great esteem. These have been purchased, and are now offered for sale by S. Feast & Sons (as before remarked), with the Charles's Favorite and Haarlem Orange. He never parted with these, his answer being always: "They are not for sale." His seedling strawberry ground was trenched from two to three feet deep; at the bottom of each trench, a layer of eight or ten inches of charcoal, manure, leather refuse, and various materials, were mixed. The seedling plants were turned out of the pots in which they had been kept all winter, and planted in rows two feet, and the plants eighteen inches apart. The ground was then covered with a thick coat of tan, the runners suppressed until fruiting was over. The three now offered are the choice of many thousands tested. So notorious had his fruit become at the exhibitions and the markets, that no others attracted attention.

Marylandica is one of the finest show fruits. Color, rich dark crimson; large, firm, rich flavor; strong grower; well adapted as a fertilizer, and we think it the finest berry we know.

Haarlem Orange ripens early, and continues until strawberries are over; is a very prolific bearer, good size, and of a glossy orange color, pine-apple shape, firm, and of rich flavor, and a great favorite of the birds.

Charles's Favorite is declared to be equal to Hovey's Seedling, and ripens ten days earlier.

His camellias, now also in Mr. Feast's control, are Feast's Perfection, quite a remarkable flower, distinct from any other in color, and attracts all eyes, in collections however large.

Triumph of Baltimore is a very strong grower; large foliage, enormous flower, imbricated; color like tricolor, but not so coarse, and very attractive.

Mary Kurtz is also a good one; fine foliage, free bloomer, fine-shaped flower, white ground, striped with rose; raised by Edward Kurtz, an amateur of merit.

The owners of these valuable articles,

Samuel Feast & Sons, have been long and favorably known nurserymen and tenants of Dr. Edmondson. They have a very large nursery, a great variety of camellias, including some new and desirable kinds. Their prairie roses are too well known to be more than alluded to. Mr. S. Feast has been engaged, for some time, in planting orchards of pear, peach, and apple, for the supply of the Baltimore market, and if intelligence is any passport to success, he will soon show what may be done.

John Feast has a town greenhouse and garden, filled with the rarest and most beautiful flowers, and does a large business, supplying plants, bouquets, &c. &c.

Pentland & Brother are also largely engaged in the flower business, and have advertised, lately, some new roses, which promise well.

Baltimore may hereafter supply additional notes; at present, we reluctantly leave this most hospitable region.

THE LEAF-CUTTING BEE.

BY J. STAUFFER, MOUNT JOY, PA.

The genus Megachile (comprising the leaf-cutting and some other bees) has long attracted the attention of the curious; and so early as 1670, it was noticed by Ray, Willughby, Lister, and others.

Mr. Kirby has given the history of these bees at great length in his *Monograph*, together with Réaumur's account; yet I have never met with a description of our native species. T. W. Harris, among his hymenopterous insects (page 371), barely mentions "the skill of the leaf-cutter bee in cutting out the semicircular pieces of leaves for her patchwork nest." True, there may be other accounts which have not come to my notice. I offer the following observations (made by myself), which may be of interest to some, and new to others:—

On the 3d of last September, I found a series of compact rolls of fresh green leaves from the rose or sweetbrier, neatly fitted into the channel made (as I suppose) by some larvæ of a coleopterous insect. These rolls were about three-fourths of an inch long, and three-eighths of an inch in diameter, Fig. 8, composed of layer upon layer, accurately adjusted with a double top and triple bottom of circular pieces, as tight as a cartridge without cement, apparently. One opened contained about six small, white, oblong eggs, immersed in an orange-colored jelly-like substance (pollen and honey necessary for the food of the larvæ). November 24, I opened another, and found the larva, Fig. 10 (half the size of fig.). The perfect insect (male?), Fig. 1, came forth May the 26th. I took accurate drawings of the

various stages, but regret that my woodcut is not equal to my wishes; but it may suffice, as I am not a professed "wood-cutter."

The insect is about half an inch long, of a black color. The face, Fig. 9, is densely clothed with yellowish hairs; the Antennæ clavate, with the apical segment subcompressed; the cheeks, underside and margin of the thorax, and anterior segment of the abdomen, sparsely clothed with yellowish hairs. The tibia are black, with a few hairs near the body, except the anterior pair, Fig. 3, which are densely clothed with long, ochrous hairs. Fig. 5, the spurred hind-leg; the tarsi are covered with short black hairs. Fig. 7, the two jaws—one apparently one-toothed, cutting edge slightly curved. Fig. 6 is the tongue; its external sheath, and the maxillary and labial palpi, separated. Fig. 4, the anterior wing, with its cells.

This species may be known to those familiar with the insect. I will not venture to name it, but shall be truly obliged to any one who will inform me of its specific name. I will append a portion from Kirby and Spence's *Entomology*, by way of conclusion.

"The process which one of these bees employs in cutting the pieces of leaf that compose her nest, is worthy of attention. Nothing can be more expeditious; she is not longer about it than we should be with a pair of scissors. After hovering for some moments over a rose-bush, as if to reconnoitre the ground, the bee alights upon the leaf she has selected, usually taking her station upon its edge, so that the margin passes between her legs. With her strong mandibles, she cuts without intermission in a curve line, so as to detach a triangular portion. When this hangs by the last fibre, lest its weight should carry her to the ground, she balances her little wings for flight, and the very moment it parts from the leaf, flies off with it in triumph, the detached portion remaining bent between her legs in a direction perpendicular to her body. Thus, without rule or compasses, do these diminutive creatures mete out the materials of their work into portions of an ellipse, into ovals or circles, accurately accommodating the dimensions of the several pieces of each figure to each other. What other architect could carry impressed upon the tablet of his memory the entire idea of the edifice which he has to erect? and, destitute of square and plumb-line, cut out his materials in their exact dimensions, without making a single mistake? Yet this is what our little bee invariably does. So far are human art and reason excelled by the teachings of the Almighty."

MEMOIR OF ANDRÉ MICHAUX.

FROM LOUDON'S ARBORETUM.

ANDRE MICHAUX was born in the Park of Versailles, in 1746, and soon evinced a taste for agriculture and botany, which was fostered by his early patron, the court physician, M. Lemonnier. In 1777, he studied botany under Bernard de Jussieu, at Trianon; and in 1779, he was studying in the *Jardin des Plantes*. Soon after this he went to England, and returned to France with a great number of trees, which were planted in the gardens of M. Lemonnier, and of the Maréchal de Noailles, where they succeeded perfectly. He often used to take from these gardens a packet of grafts, and, going through the woods of Versailles, he would graft them on the trees already there. In 1780, he went to botanize on the mountains of Auvergne with several botanists, among whom were Lamarck and Thouin. Michaux was the most active of all of them; besides his musket, haversack, portfolio, and several specimen boxes, he carried in his pocket seeds of the Cedar of Lebanon, which he sowed in favorable situations. Soon afterwards, he went to

the Pyrenees, and travelled in Spain; and, in a short time, accompanied the nephew of the celebrated Rousseau to Persia, the latter being appointed Consul to that country in 1782. He went to Aleppo, Bagdad, the Tigris, the Euphrates, Bassora, and many other places, sending home numerous seeds to Thouin, Malesherbes, and others. Persia at that time was a prey to civil wars, and Michaux, plundered of everything by the Arabs, was supplied with the means of continuing his journey by M. de la Touche, the English Consul at Bassora, though France and England were at that time at war; M. de la Touche, his biographer observes, thinking that a naturalist who travelled for the good of humanity, ought to be protected by every nation. In this part of the world Michaux remained two years, traversing mountains and deserts from the Indian to the Caspian Sea, and proving that the provinces situated between 35° and 45° of latitude in the East, have supplied most of our trees, exclusive of those which belong to America. He here verified the fact first noticed by Kæmpfer, that the male flowers of the date will keep during the year, and yet impregnate the female. He sent home sculptured ruins from the palace known as that of Semiramis, near the Tigris, and various other antiques, and objects of natural history. He returned to Paris in June, 1785, and was chosen soon after to go to the United States, to collect seeds of trees and shrubs; to establish an entrepôt for them in the neighborhood of New York; and to get them sent from that to Rambouillet, which was destined to receive them. He was also commissioned to send home American game. He arrived at New York in October, 1785; established a garden there; traversed New Jersey, Pennsylvania, and Maryland; and, after the first year, he sent home twelve boxes of seeds, and five thousand young trees, together with some Canadian partridges, which afterwards bred at Versailles. In September, 1789, he went to Carolina, making Charleston his depôt; he traversed the Alleghany Mountains, and the whole country north and south, leaving his son at Charleston, in charge of the gardens there. From this place he sent home numerous seeds, and many hundreds of young trees. In April following, he set out to reconnoitre the sources of the Savannah, and there he discovered Magnolia auriculata, Robinia viscosa, Azalea v. coccinea, a Kalmia, a Rhododendron, and many oaks and other trees not before known. The manner in which he travelled, his intercourse with the native Indians, and the accidents he met with, are extremely interesting. Whenever he discovered a new plant, it inspired him with such enthusiasm, that he no longer felt fatigue. The discovery of a new Pavia, and of the Pinckneya pubens, gave him great pleasure. He arrived at New Providence in February, 1799, and returned to Charleston in May of the same year. He afterwards visited the highest mountains of Carolina. The dangers he experienced there, convinced him of the necessity of having two guides, because one might perish by the road by a thousand accidents, and it would be impossible for a European to find his way alone through the country. He found in these mountains vast tracts covered with Rhododendrons, Kalmias, and Azaleas, and with forests of trees altogether impenetrable. War, at this time, was declared between France and England, and Michaux was afraid of being forced to leave America. He had been for a long time occupied with the idea of determining the native place of all the American trees; and also at what latitude they begin to grow rare, and where they disappear entirely. In short, he wished to ascertain up to what height they are found on the mountains, and in what soil they prosper best. He considered the native country of a tree to be that in which it is most numerous, and where it acquires the greatest height and thickness. Thus he fixed on Kentucky as the native country of the Tulip-tree, because it there forms vast forests, has a trunk commonly seven feet or eight feet in diameter, and grows one hundred and twenty feet high, thriving in a moist,

clayey soil, but not in one that is frequently inundated. In higher or lower ground, or in a different soil, these trees become smaller and more rare. It was with a view to trace, in this manner, the botanical topography of North America, that Michaux visited the Floridas, and went as far as Hudson's Bay. He left Charleston in April, 1792; arrived at Quebec in June of the same year; and reached Tadoussac, lat. 52°, in October, one hundred and sixty leagues from any human habitation. He afterwards planned a journey to Mexico, for the benefit of the United States; but, after very many journeys, he returned to Paris by Amsterdam, where he arrived on the 3d of December, 1796, after ten years' absence. He found his friends well, but was grieved beyond measure to learn that the beautiful plantations of Rambouillet, to which he had sent sixty thousand young trees, had been destroyed during the Revolution, and that but a very small number of the trees were remaining. Seeing that tranquillity was restored, he instantly thought of repairing the loss. After unsuccessfully endeavoring to get sent again to America, he was sent to New Holland. He stopped at the Isle of France, and was very desirous of going to Madagascar, in which island he was attacked by the fever, and he died there in November (an ix.), 1803, aged fifty-seven years.

Michaux not only sent many new trees and shrubs into France, but he sent great quantities of the seeds of the more useful species; such as Juglans *Paccan*, used for making furniture, and which produces the nut oil; Taxodium distichum (the deciduous cypress), suitable for planting in very moist soil: Nyssa caroliniana, useful for the naves of wheels; Quercus tinctoria, for tanning and dyeing; and Q. virens, which, he says, grows rapidly on the sandy beach, exposed to the stormy winds of the ocean, where scarcely any other tree can exist, and the wood of which is excellent for ship-building; to these may be added the Caryas of Pennsylvania, the Tulip-trees, and the American Ashes, Maples, &c., which, in many parts of France, are preferable to the indigenous trees. The administration of the Museum, aware of the services rendered to natural history by Michaux, ordered his bust to be placed on the façade of the greenhouses, along with those of Commerson, Dombey, and other travellers who had enriched their collection.

Michaux was too fully occupied in travelling to have much leisure to write; nevertheless, he is the author of *Histoire des Chênes de l'Amérique Septentrionale*, published in 1804: a *North American Flora*, and a *Memoir on the Date Palm*. The particulars of his life, at great length, and proportionately interesting, will be found in the *Annales du Muséum*, tom. iii. p. 191, from which this notice of his life has been abridged.

[A memoir of his son, François, who completed the *North American Sylva*, will be given soon.—Ed.]

SHRUBS WITH ORNAMENTAL BERRIES.—NO. 3.

BY THOMAS MEEHAN, GERMANTOWN, PA.

27. *Rhus*. The Sumac.—R. Cotinus, the Mist-tree, or Green Fringe, is perhaps one of the best known. It can be scarcely said to be valued for its purple berries, for it produces these sparingly, but rather for its mossy looking flower, giving the plant, at a distance, the appearance of being enveloped in a Scotch mist. *R. typhina*, the Stag's-horn Sumac, in addition to its beautiful crimson-dyed leaves in autumn, has handsome spikes of fruit. It is a shrub of the largest size. *R. coriaria*, if it were not so very common in our fence rows, would be highly prized for its very beautiful crimson fruit. The objection to most of the

family is that they propagate only too freely. The *R. cotinus* is an exception, as this can only be increased by layering the half ripened young shoots.

28. *Rosa rubiginosa.*—The Sweetbrier Rose is another of my little pets. I will pass by the grateful fragrance of its leaves, and the simple beauty of its sweet flowers, sorry that my subject obliges me to do so, to recommend it to all who should chance not to possess one, if only for its numerous little golden pear-shaped pods, so numerously produced, and so persistent for many months after everything else has disappeared. It is raised from seeds sown in the fall, if desired to grow the next spring, or in the spring, if one year's growth be no object. It is well pleased with any common garden soil.

29. *Sambucus.* The Elder.—The American species, though possessing handsome fruit, is rarely or never admitted into gardens. I allude to the *S. canadensis*, its extensively creeping roots rendering its presence there very disagreeable. There is one species, however, inhabiting the mountains of the northern States, which, while it is free from this objection, has also very beautiful red berries, which are very ornamental. This is the *S. pubens.* There is also a scarlet-berried European species, a stronger grower, and more desirable than the last, the *S. racemosa.* Most of the kinds known in the gardens, as the variegated, cut-leaved, &c., are all varieties of the *S. nigra*, a European variety, and bear fine clusters of deep black berries. All the species are of the easiest culture, growing anywhere but in very shady situations, and easily increased by cuttings taken off in the fall of the year.

30. *Shepherdia argentea.* The Buffalo Berry.—This shrub grows about ten feet high, and rather bushy. It has silvery shoots and foliage quite peculiar and interesting. Male and female flowers are borne on separate plants generally, so that to make sure of having a plant to bear berries, it is best to have both sexes growing near each other. The berries are small, but borne in great numbers; they are of a transparent pink color, and, when grown in perfection, there are few things more pleasing as a specimen lawn plant. It does best in a deep rich loam, and in an open situation. In the nurseries it is propagated by layers put down in July and August. They root rapidly and make good plants the following year.

31. *Symphoria*, or *Symphoricarpos. S. glomerata.*—The Snowberry is a well known small shrub, bearing numerous pure white berries in the fall and winter months. *S. racemosa* has smaller berries than the last, more numerous, and of a dingy red. It is known in its native places as the "Indian currant." They are both desirable shrubs of the easiest possible culture; cuttings taken off in fall or winter root as readily as willows.

32. *Taxus.* The Yew.—Pre-eminent amongst hardy evergreen shrubs for its handsome foliage; it is no less desirable for the pretty scarlet or pink berries it bears in succession most of the summer months. In the combination of these two points, it is second only to the Holly in beauty, and superior to that in the ease with which it can be cultivated. The American, *T. Canadensis*, has the handsomest berries. They are of a brighter color and produced more freely than those of any other species, but the plant is more straggling, and seldom makes a large or handsome bush. The European species, *T. baccata*, does not often bear fruit with us; the dark foliage of the plant shows them to advantage when they are produced. The Irish Yew, a variety of *T. baccata*, with an erect growth, has larger berries than either of the two species, but much duller in color. The yews will do well anywhere except in a wet situation. They, however, invariably do best in a rich garden soil, and indeed may be said never to exhibit their real beauty unless well cared for. They are propagated by layers, cuttings, or seeds. The first mode is the most universal. They root readily by cuttings of the one year old wood, put

in in the fall and preserved over the winter in a cool frame just kept from frost. Seeds may be sown early in the spring in boxes of sandy vegetable soil, covered about a quarter of an inch with soil, and kept in a cool place till they germinate.

33. *Viburnum.*—In this genus are found some of the most valuable berried plants we have. *V. oxycoccus*, the mock cranberry, is very widely known, its large red cranberry-like fruit giving it a conspicuous appearance in August and September. *V. dentatum*, with pretty foliage and a neat bushy habit, has numerous clusters of small blue berries. *V. Lantana*, the wayfaring-tree, and *V. lantanoides*, have woolly foliage of a silvery hue. *V. acerifolium*, the maple-leaved, is not a handsome grower, but has large clusters of ovate black berries. It does not grow over three feet. *V. prunifolium*, the Black Haw, is a strong grower, and very beautiful when in blossom. Early in the fall, and during most of the winter, it is covered with large black berries. All the species except the last root readily from cuttings taken off in the fall, preserved moist till spring, and then planted. *V. prunifolium* will only grow well from seeds. If these are preserved dry till spring they rarely grow till the spring following.

34. *Viscum flavescens.* The Yellow Mistletoe.—This little shrub, as most persons know, is a parasite, or plant that maintains itself by living on others. It is generally supposed that they will only grow on certain trees. The English Mistletoe, *V. album*, was at one time supposed to grow on the oak only. The present species I have seen growing vigorously on the Persimmon. It has numerous white berries through the winter by which it is propagated. I regret that I can give nothing from my own experience with regard to its culture, every attempt having failed; and I have never seen but one plant that was raised artificially. In this, a notch was cut in the bark of an apple-tree, and the seed stuck in.

When I commenced these notes I had no idea they would extend so far. I trust that something, however, may be found to repay their perusal.

PINON REAL.*

In various excursions on the Island of Cuba, a most gorgeous flower presents itself in private gardens, which attracts general attention; and, by the favor of Madame Solle, of Charleston (who was in Havana), we procured the drawing which embellishes the present number, under the Spanish name of *Pinōn real.* The tree is the Erythrina indica, of the family of the Leguminosæ. The flower is of a gorgeous scarlet color, and a tree covered with them, before the leaves appear, presents a most beautiful object.

Erythrina indica (Lam. dict. 2, p. 391, var. a). Stem, arboreal, prickly, with broad-ovate, acute leaflets, a spathaceous calyx, an ovate, concave, spreading banner; the stamens, monadelphous at the base. Native of the East Indies. Rheed, Malabb. t. 7; Rumph. Amb. 2, t. 76. *Syn.*, E. *corallodendron*, B. Linn. spec. 992. E. *orientalis*, Murr. Comm. Goeth. 8, p. 35, t. 1 (?). Flowers, of a splendid scarlet color. In Rheed's figure, the calyx is acute, and much elongated. In Rumphias' figure, it is short and obtuse. Do they form two species?

The above is translated from Decandolle's *Prodromus*, t. 2, p. 412. Don (whose description is a copy of the above) calls it Indian Coral-Tree, and adds: "Tree, twenty or thirty feet high." Neither of these authors, nor Loudon (who gives a figure of it on p. 605), mentions the name by which it is called in Cuba (Pinōn real).

The *Cyclopædia of Natural History* says that the Erythrina monosperma (an East Indian species) is the tree from which gum-lac is obtained.

* See Frontispiece.

INFLUENCE OF THE STOCK ON THE GRAFT.

BY R. BUIST, PHILADELPHIA.

SURELY, the study of horticulture in its various details, is one of the most beautiful that the mind of man can be engaged upon. I do not allude to that effervescent study given to it by nurserymen who are ever on the stretch for pounds, shillings, and pence, but to that cool, deliberate study of a student—that shutting out of everything except the scientific results of an inquiring, cool, deliberate mind. A few years ago, it was for the pear the *quince* stock only, and then the next move was the *Angers Quince*, the Pyramidal Quince, &c. Now, in 1857, there appears a reaction, and all pears must be on pear stock. We are strange in our ideas, few really thinking and acting on their own pure opinion; they take for granted that others are right. About five years ago, in an article for one of our periodicals (by myself), I advanced the opinion that the proper method of preparing the stock for a fruitful and persistent tree, was to remove it frequently before it was planted into the orchard. It would no doubt increase the cost from the nursery, but it would certainly be cheaper to the purchaser, in the safety and fruitfulness of the tree. I am not over the mark if I say that one-third of all the fruit-trees die within three years of their removal from the nursery. I very much question if there are a fourth of those trees planted with any degree of knowledge, from the fact that the planter does not know, from reasoning or thought, how a tree should be deposited into the ground; even with a *printed* guide before him, he goes astray. If they grow, he takes the credit; if they die, the broad-backed nurseryman is to blame. I find, however, by impulse, I am going from my subject of the influence of the stock upon the scion or graft.

In my movements last season, I was called upon to visit a grapery where nearly all the vines "had been killed by some wash given them by the gardener." (Poor gardeners, they are always committing some unpardonable sin.) The house was new, and a good one. I was certainly struck, on beholding all (except three) of the vines cut down to very near the ground. Before I expressed any opinion, I observed that the wash had only finished the work. The vines had been allowed to remain to the rafter all winter, and had been killed by the frost and sun. But how did the three remain? you will say. On close inspection, I found they had been grafted or inarched upon our native grape; those three, and none other, had been operated upon. This fact was not new to me, though it was before me in a new feature. Every planter and practical man should hold before them, in large letters, that a *hardy stock assists making a hardy tree.* Gardeners about Philadelphia, and south of it, do not invariably take the precaution to take down their vines, and cover them with dry material, to resist the cold and sun. Where it is not done, vines are split from top to bottom, fruiting buds killed, and frequently the whole or half the crop is lost. A little forethought, and six hours' labor—labor do I say? no, pleasure is the proper term—pleasure to feel that your vines and coming crop are safe, even with the thermometer at 30° below zero.

HOW TO MAKE STRAWBERRY BEDS.

BY THE LATE A. J. DOWNING.

As I presume a large part of your readers prefer practice to theory, perhaps some of them, about to plant strawberry beds, may take an interest in the following hints, though they are neither novel nor original:—

I have seen a great deal written about the sexual character of the strawberry, but not half enough about plain and straight-forward ways of cultivating it.

Now I must be permitted to say that I have cultivated for years the Early Scarlet, Hudson, and Hovey's Seedling—three unexceptionable sorts. The first, peculiarly valuable for early maturity, the second for preserving, and the third for large size and good quality; and I have paid no attention whatever to staminate or pistillate plants. All I have cared for, was to *get the soil in the right state*, and let the blossoms and berries take care of themselves. I have had the satisfaction of gathering very large crops of first-rate fruit, while some of my neighbors who have studied the nature of the blossoms, and thought too little of the soil, have had very sorry crops. Not that I mean to say that there is not something in this matter of the difference in the blossoms; but that I have found it of little or no importance to intermix them in any given proportions in the same bed. All that I do, is to cultivate a bed of "staminates," like the Virginia, or the Early Scarlet, in the same part of my garden as my Hoveys and Hudsons, and let them take the whole matter of fertilization into their own hands.

Now it seems to me, that the point most difficult to hit is that of manuring the soil well for the strawberry. If you use stable manure, in the ordinary way, you are certain to fill your soil with weeds to such an extent, that you give yourself a deal of needless trouble in keeping the weeds down; and if, as is not unlikely, you use it *fresh*, you will be likely to burn up your young plants, if the season is dry.

Two points must be understood, to grow the best strawberries: 1st, that the soil must be deep; and 2d, that it must be rich. If you look at the leaves of a strawberry, and, because they are not very large, presume that the roots will extend but little depth, you are greatly mistaken. I have seen the roots of strawberries extend five feet down in a rich deep soil; and those plants bore a crop of fruit five times as large, and twice as handsome and good, as the common product of a soil only one foot deep.

And this reminds me of a capital instance of *strawberry delusion*, which most of your readers doubtless know something about, but which many even yet do not, perhaps, fully understand. I mean the history of the "Washington Alpine Strawberry," which Mr. Stoddart, of Western New York, advertised, and sold a great many dollars' worth of, some four or five years ago. Mr. Stoddart, I believe, was quite honest in the transaction; and yet the whole public were completely deluded by the "Washington Alpine," which was nothing but the old Alpine or Monthly Strawberry. The long and short of the matter was, that Mr. Stoddart had a corner of his garden which was *made ground*—a rich, deep, moist soil (I think it had been an old bog, or bit of alluvial, afterwards filled up), not less than eight or ten feet deep. Mr. Stoddart had raised some seedling Alpines (which, so far as I know, always come the same from the seed); he had, by lucky chance, planted them in this corner of his garden, where the soil was so unusually rich and deep. There they grew so finely, and bore such enormous crops, that his neighbors could scarcely credit their senses. The story of the miraculous crop got into the papers. People

came to see with their own eyes. In short, they bought and carried away the "Washington Alpines," at extravagant prices, with the full conviction that "seeing is believing," and that such strawberries were never before grown, gazed on, or tasted. Well, great was their surprise to find, on planting and cultivating the "Washington Alpines," that there was nothing new or wonderful about them; and that, in fact, they all dwindled down to the old-fashioned Alpine Strawberry. Mr. Stoddart, naturally enough, now has as many hard names bestowed on him for the fancied deception, as he had before had hard dollars for really great crops. And yet, Mr. Stoddart sold his plants in good faith, and was probably as much deluded as the buyers. The whole secret of his unheard-of crops, and the large size of his fruit, lay in the depth and richness of his soil; and as none of his customers had, like him, a rich ten feet mould to grow giants in, they had no "Washington Alpines."

The "moral" your readers are to draw out of this digression is, that they cannot well make their soil too deep for the strawberry. Perhaps they cannot afford to make it three feet deep, which is the right depth for an extra fine crop; but, at all events, they can make it two feet deep. And now, a word as to manuring it.

It is all very well to talk about composts and "well rotted manure." The real truth is, that in our careless country, not one gardener in a hundred has such things *ready for use* at the moment he wants to prepare his strawberry patch. What people have at hand, from one end of the country to the other, is fresh stable or barnyard manure; and the question is, how to use that to the best advantage.

The true way to do this, is to throw out the soil where your beds are to be made two feet deep. Fill up the bottom eight inches or a foot deep with fresh stable manure, mixed with the litter, treading it down firmly. Then cover this with two-thirds of the soil thrown out, rejecting the worst part of it. This will raise the bed four inches above the surface; and as it will settle about four inches, it will be about level after it is settled.

This is all the preparation which I give my soil, and it is all that any soil of fair quality needs; only that I would much prefer to have it three feet deep than two feet, and to have sixteen inches of stable manure and litter at the bottom than eight, though the latter brings heavy crops in a good soil.

You may put out your plants in August or April. The only difference is, that if planted in August, you may lose half of them by the heat and drought, unless it is a rainy season; while, in April, you are certain not to lose a single plant, unless it is unsound when you transplant it.

To my mind, there is no way of growing strawberries so complete as in beds three and a half feet wide, with three rows in each—the plants in the rows kept clipped of their runners, and the ground between the rows nicely covered with straw all the year round. The largest and finest fruit is obtained in this way, and the beds themselves will last many years; while, if they are allowed to cover the bed, you can, at the most, expect only two crops, and, generally, the fruit is of little or no value after the first crop.

It is very idle and useless to attempt to make a new strawberry plantation on old strawberry ground. You may add double the usual quantity of manure, but the soil has been so robbed of other needful elements, that you will fail in growing a healthy crop.

A word or two may also not be thrown away, respecting the choice of plants. Of course, you will always put out young runners, and not old plants; but something more than this is needful. You must take care to see that they are not runners from an old and worn-out bed; for nothing is more certain than that, while runners from a fruitful bed will make fruitful plants, so, also, runners from an old and

exhausted bed, will very often produce only barren plants. Nurserymen ought to attend to this; for any respectable and intelligent nurseryman should be ashamed of sending out plants from a bed which is not in a healthy and fruitful state, since his customers at a distance depend wholly upon his integrity in sending them sound and healthy plants; not such as inherit feeble constitutions from "a long line" of decrepid ancestors. Yours, &c., AN OLD DIGGER.

GARDEN VEGETABLES, NO. 8.—TURNIPS.

BY WM. CHORLTON.

As a part of the winter crop of turnips will have to be sowed in this month, a few remarks on their general culture may be in place at this time.

We have two classes of this vegetable in cultivation, viz: the *common* flat and globe-shaped *Brassica rapa*, and the *Swedish*, or Ruta baga (*Brassica campestris*, var. *Ruta baga*). In a wild state, both kinds are found growing in Britain, and other temperate parts of Western Europe. In such condition, they are mere weeds, with tough and stringy roots, and some of the varieties contain a considerable quantity of oily matter of a strongly bitter taste, which is almost entirely obliterated in the most improved kinds, when growing on a suitable soil. So much does the nature of the earth affect the flavor, that turnips sown out of the same packet of seed, will be either tender, sweet, and nutty, or disagreeably pungent, and stringy in texture. To obtain this better quality, turnips should have a well-drained under base, and the very best soil for kitchen use is a pulverized, fresh, and rich sandy loam; the next best is newly turned up, but thoroughly ameliorated vegetable mould, and the very worst is an old, and for a long time worked garden, that has been glutted with stable manure until the whole has become incorporated into a soapy-like humus. All the Brassica, and our present subject in particular, are much benefited by guano, used previous to sowing or planting—say three hundred pounds to the acre. Upon the first mentioned land, a liberal dressing of rotted barnyard manure is also admissible when there is a deficiency of fertilizing material; but in the two latter conditions, it is best to give a dressing of caustic powdered lime at the time of digging or ploughing the land. Superphosphate of lime, when pure, is also good, but does not always pay expenses; and likewise ground bones. The latter has a marked influence, in this instance, on poor soil, and becomes a permanent assistance to any other crops that may follow.

There is no use in attempting to have turnips in the hottest months of summer, as they only produce dry and sticky bulbs, and soon run up to seed, while no difficulty is experienced in securing a good quality during three-fourths of the year, provided suitable kinds are sown, and at the proper times. The Swedish varieties require to be sown in drills eighteen inches apart, and half an inch deep; while the others will have space enough at one foot distance. An ounce of seed will serve for two hundred feet of drill. As the "fly" is often very destructive to the young plants soon after germination, it is advisable not to thin out too soon. The best remedy against this destructive pest, is a free use of water overhead, in the evening, but when this is not applicable, a light dusting of powdered guano will generally save the crop, as will, also, fresh wood ashes, and (though with less certainty) soot or lime. All these contain alkaline or ammoniacal properties, which are obnoxious to the insect, and serve a good purpose as fertilizers. When the plants have grown some four or five rough leaves, there is no further danger, and the superfluity should be then reduced, so as to leave those intended to remain, at eight inches apart. Keep the soil free from weeds with the hoe, but never draw

it up to the plants, which only produces a tendency to push out side roots, and disfigure the bulbs. On the contrary, when particularly clean and handsome bulbs are wanted, they may be obtained by moving the tops from side to side, so as to sever all the roots excepting the main one, which penetrates perpendicularly downwards. This hint may be useful to those who are in the habit of exhibiting, and if practised, will serve such, a good purpose.

The first early crop ought to be sown as soon as the ground is in good working order, after the winter's frost breaks up, and the best kinds for this purpose are *Early White Dutch*, *Early Six Weeks*, and *Early Snowball*. The first is the most commonly accepted, but is inferior in beauty to the other two. This sowing is all that will do any good for the present, but, in the middle of July, and on to the beginning of August, another may be made of the Swedish or Ruta baga varieties, the best of which, for kitchen purposes, are *Skirving's Improved Swede*, and the smaller *Purple-top Swede*. These latter kinds are only used during the winter and early spring, but they are nevertheless good when of the size of a pippin apple; consequently, when there is a preference, they will make a good dish in the fall. The general winter crop of the common sorts, may be put in from the first to the middle, or even last of August, according as the locality is north or south. The middle of the month is about the best time for most of the Middle States, and here I would recommend the *Purple-top Strap-leaved* (a very handsome, flat, and white-fleshed sort, of good flavor), *Yellow Dutch*, and *Golden Ball*, both of which are beautifully formed, yellow in color, and keep well.

Turnips will bear some frost without any apparent external injury, but the texture and flavor are always injured thereby, which makes it necessary to prepare for housing in due time. Choose a dry day to pull the roots, cut off the tops nearly close to the bulb, and throw all that are misshapen or injured to one side. Those that are wanted for immediate and mid-winter use, may be placed in layers, one above the other, in a dry cellar, each of which should have a little dry soil or sand thrown over it, or they may be packed in tight barrels, and covered close with hay or some such like material, to prevent the air from drying and shrivelling them; this renders them very inferior, and often causes bitterness. For the remaining portion, choose a dry spot out of doors, pile the roots in a ridge, the base being from two to three feet wide, cover over a thin layer of straw, and upon this a sufficient quantity of earth, to keep out frost. Sometimes, when these ridges of root crops are made large, or the weather should unexpectedly remain mild or over damp, there is more or less of sweating taking place, which always injures the quality, and often causes the roots to decay. This may be entirely prevented, by standing a bundle of straw on the top of the ridge, at the distance of each three feet, until the earthing is completed, when it is to be drawn out, leaving an aperture for the escape of all fermentation or moisture. After a time, these openings may be closed with earth, and, while they are in use, a "Λ" cover should be put over them, to keep out rain. The earth that is raised up, and placed over the ridge of roots, may be taken from, and around, the base, by which an excavation is formed; this will drain all water away, and keep the whole comparatively dry. When the frost becomes severe, a further covering of litter ought to be thrown over the whole, to insure further protection, and, in the spring, turnips preserved in this way will be found equally as good as when first pulled from the garden.

REMARKS ON THE EFFECTS OF GEOLOGICAL POSITION ON CERTAIN CONIFERÆ.

BY THE RIGHT HON. THE EARL OF DUCIE.

The general diffusion of foreign Coniferæ, and their importance, not only as regards the effect which they will eventually produce in our landscapes, but as regards their intrinsic economic value, induces me to hope that a notice of certain peculiarities which I have had opportunities of remarking in a few species, may not be unacceptable, and may possibly elicit papers on the same subject from persons who are qualified to treat of it more fully.

In and about Tortworth Park, at the extremity of the Bristol Coal Basin, the underlying beds of carboniferous limestone and old red sandstone crop out at a high angle, with occasional beds of the Triassic and Liassic formations resting on their flanks, producing not only great irregularities of surface, but important differences both in the constitution and quantity of the superincumbent soil. Over the whole of this ground the more common Coniferæ are planted in great abundance, and, with a few exceptions (owing chiefly, I believe, to geological reasons), they grow rapidly and well.

As a general and sufficiently obvious rule, the Coniferæ thrive in proportion to the depth of the surface soil on which they stand. This is especially the case with the Deodar and Pinus insignis. The rule does not, however, appear to apply invariably to Abies Douglassii, as I possess specimens growing as vigorously on the cold and sterile shales of the carboniferous limestone, as others on the deep and warm soil of the old red sandstone.

The most fastidious of the Coniferæ which I have had an opportunity of observing is, undoubtedly, Cryptomeria japonica. On the limestone its leading shoot is always defective, and its growth generally devoted to the formation of a nest-like mass of small shoots; whilst, on the old red, a formation deficient in lime, its growth is regular, upright, and graceful, and so rapid, that I have no hesitation in affirming that, in this locality, it would outgrow the larch.

The Deodar, on the other hand, appears to be the least discriminating, and the most accommodating of all the Coniferæ. No position, and no variety of soil, appear to come amiss to it; on lime or sandstone, rock, or clay, it grows with equal facility, though depth of soil, as before stated, invariably contributes to rapid growth.

Pinus insignis appears to prefer the old red to the limestone; on the latter formation it maintains its health, but its annual growth is comparatively small. The most vigorous specimen of this Pine which I possess, stands on a deep loam, formed by the detrital matter of the overhanging hill, at the point of contact of the old red sandstone and the clay of the lower lias. This tree, which was planted about the year 1843, is now forty feet high, and, at one foot from the ground, five feet in circumference.

In Araucaria imbricata, though planted in considerable abundance, and in every variety of soil, I have not been able to detect any decided preference for one formation over another. It has an evident dislike to a wet locality, and it generally, though not exclusively, thrives best upon a deep soil.

Cupressus funebris, and Cupressus Goveniana, are both growing vigorously on limestone rock, with but little surface soil. The former of these trees is thriving equally upon a deep soil of the old red sandstone. Cupressus macrocarpa is growing rapidly on the clay of the carboniferous limestone.

Taxodium sempervirens appears to be extremely capricious in its taste as regards the formation on which it grows; but I have in several cases remarked that it thrives, and even appears to luxuriate, in a shade which proves deleterious, and often fatal, to Pinus insignis.

There are many other Coniferæ which appear to manifest habits or tastes peculiar to themselves; but which are either too young, or in numbers insufficient to justify me in attempting to generalize upon them. Indeed, all the remarks which I venture to offer in this short paper, are not made with a view to dogmatize upon the subject, but in order to call the attention of persons cultivating this tribe of plants, to the importance of selecting the position of such Coniferæ as show any decided tastes. With some reference to geological position, it is true that many formations are not often met with upon one estate, more especially in one park—the locality in which the more valuable Coniferæ are generally planted; but where such conditions do occur, a knowledge of the formation in which each species appears to thrive best cannot fail to prove important. Before such knowledge can be attained, more extended and more accurate observations will be necessary; and should this paper prove the means of calling the attention of more competent persons to this study, I shall feel that I have not recorded my brief experience in vain.—*From Transactions of the Scottish Arboricultural Society.*

EXPERIMENTAL GARDEN.

BY A MEMBER OF THE PENNSYLVANIA HORTICULTURAL SOCIETY.

I WAS pleased to read the address of "Viator" to the various Horticultural Societies in your last number, and trust the different successful associations will move in the matter of experimental gardens. Horticultural magazines and horticultural societies have done a vast deal towards the present advanced stage of American gardening; but to me it seems that both of these combined are not able to effect so much good as the example of a well conducted garden would. So far as our society is concerned, I do not think there is one who has taken the least interest in its success, who is not of the same opinion; indeed, it is a subject which, as a body, they have often had under consideration, and which they have long looked forward to as a cherished object. I have not been connected with the management or business affairs of the society sufficiently to understand the reasons why something of the kind has not been attempted ere this; but I judge I am not far wrong in the impression that it is either from a fear that their resources are inadequate to its establishment, or that they have a doubt as to its power to sustain it afterwards. Should I prove correct in my surmises, and it turn out that there are really no other objections, I shall begin to hope that, with the assistance of a few such friends as "Viator," the day is not far distant when I shall enjoy a ramble through "The Society's Garden." If the resources are limited, we have only to keep within their bounds. It is not prudent, even with large resources, to begin too largely at first. An establishment of say five or ten acres, thoroughly well kept, and in a prosperous state, would draw around it more support than a princely affair that, with difficulty, eked out a beggarly existence. Though everything should not be attempted at once, whatever was begun should be completed in the most perfect manner, and sustained with liberality and judgment. So far as it went, it should be a model of its kind. If our society will only attempt it, there need be no fear of the result. If their finances are too low, an appeal to the citizens judiciously made would be liberally responded to. Once started, and on a proper basis, it would, I am sure, flourish

by its own vital force, and with very little external aid. As a member of the Pennsylvania Society, these suggestions are made to it particularly from a pride I should naturally feel in seeing it the first to move in the matter. I do hope, however, that either it or the equally prosperous ones of Massachusetts, Cincinnati, or Brooklyn, &c., will proceed to consider it, believing, as I do with "Viator," that there is nothing more capable of diffusing a popular taste for gardening than such establishments.

In conclusion, Mr. Editor, allow me to compliment you on the support you have given your correspondent. Had your lamented founder, Downing, lived, we should have had something of the kind ere this. But a short time before his death, he was so impressed with the importance of such an establishment that it was a constant theme of conversation with him; and, if I mistake not, he penned a powerful essay on the subject but a few months before the catastrophe on board the "Henry Clay." You could not just now offer a fitter tribute to his memory than to revive, encourage, and stimulate this, one of his pet projects.

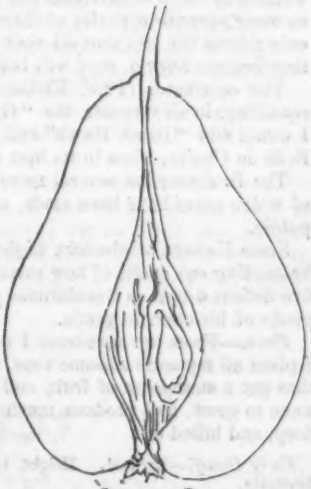
[We are pleased to find this subject is attracting attention; sooner or later we must have such gardens, and the sooner the better. If not undertaken by societies, we would call attention to a plan, formerly suggested, of a few gentlemen uniting for such a purpose. In regard to exhibitions, the first step has yet to be taken for a competition in boilers, and all sorts of heating apparatus, collections of garden implements and tools, machines, glass-ware, protecting materials, cement work, flower-pots and vases, garden engines and syringes, wheelbarrows, hand-pumps, transplanting machines, wire netting, fumigators, scrapers, &c. &c., and even greenhouses themselves.—ED.]

RANDOM NOTES—COLLECTED FOR HORTICULTURIST.

BY F. R. ELLIOTT, CLEVELAND, OHIO.

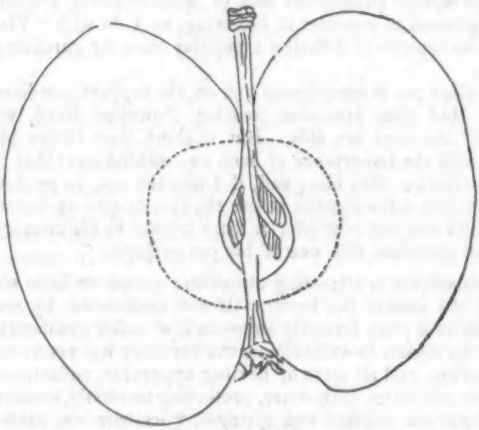
The Lycurgus Pear.—This is a new variety of winter Pear, raised from seed by George Hoodley, Esq., of Cleveland. It resembles the "Martin See" somewhat, in size and form, but a little larger. It has all the sugary character of that variety, with more juiciness, and a melting, buttery texture. It ripens in January. For a full description, *see* revised editions (now in press) of *American Fruit Growers' Guide.*

Vine Pruning. (*See* drawing, p. 367.)—Accompanying herewith, I send you a drawing, giving a representation of the results of a judicious system of pruning the grape-vine, to induce and evenly distribute its fruitfulness. The drawing was made by one of my correspondents from a vine in his grounds (out-door culture). It occupied a space of four feet high and three feet wide, and produced and perfectly ripened sixty-seven bunches of fruit.



Lycurgus Pear.

The Carpenter Apple.—This is a new variety, originating with Mr. Charles Carpenter, of Kelly Island. The tree is a strong, healthy grower, producing annually and abundantly. It is not above second-rate as an eating apple, but is an admirable keeper, and excellent for cooking from November to May. As an eating apple in May and June, it has, however, at the time, few superiors. It is new; never before named or described.



Carpenter Apple.

Fruit, above medium, roundish, flattened, oblique. *Skin*, rather rough, rich lemon yellow, deepening in sun; often a ruddy, rich, red cheek, and thickly dotted with small gray dots, apparently raised upon the surface. *Stem*, varying; sometimes thick, short, and stout, again medium in length and size. *Cavity*, open, deep, regular. *Calyx*, large, open. *Segments*, five, distinct, long, reflexed. *Basin*, deep, round, regular, slightly furrowed. *Flesh*, yellowish-white, crisp, breaking, juicy, sharp, subacid. *Core*, medium, compact. *Seeds*, long, ovate, pointed. *Season*, February to May.

The Kirtland Cherries.—However strange it may seem, and unwilling as the world may be to believe that one man could in so short a time originate from seed so many superior varieties of cherries, it is nevertheless true. Season after season only proves the fact that all that has been said of them is correct, and that, as they become known, they will take precedence over all varieties yet introduced.

The originator (Prof. Kirtland) invites the world to produce two varieties equalling, in all respects, the "Gov. Wood" and "Kirtland's Mary." To these I would add "Black Hawk" and "Delicate." The latter rivals in delicacy the Belle de Choisy, when in its best condition, and the tree is far more productive.

The Professor has several more trees of his seedlings that "promise well," and of which notes have been made, and, in due course of time, will be given to the public.

Some Eastern originators might copy a good example from Western men, viz: by sending out grafts of new sorts gratis, or, at least, at fair prices; not charging five dollars a tree, as is sometimes practised. Prof. Kirtland has freely distributed grafts of his cherries gratis.

Peas.—From my note-book I copy some memoranda of peas, made last season. I plant all my sorts at same time, and generally from eight to ten inches deep. I thus get a succession of fruit, and the roots being in cool ground, the vines continue to grow, and produce much longer than when planted two to three inches deep, and hilled up.

Early Dwarf.—Earliest. Height, two feet. Pods, short but full. Productions, most desirable.

Early Charlton.—Not very early. Three to four feet. Good-sized pod. Strong standing vine.

Bishop's Early Dwarf. — Blooms freely. Short pods. Eighteen inches high. Not profitable.

Green Prolific. — Eighteen inches to two feet. Short pods. Productive. Not extra early.

Blue Imperial.—Two to three feet. Full, showy pod. Productive. One of the good ones.

Early Washington. — Nearly as early as Early Dwarf. Vines not as strong. Pods about same.

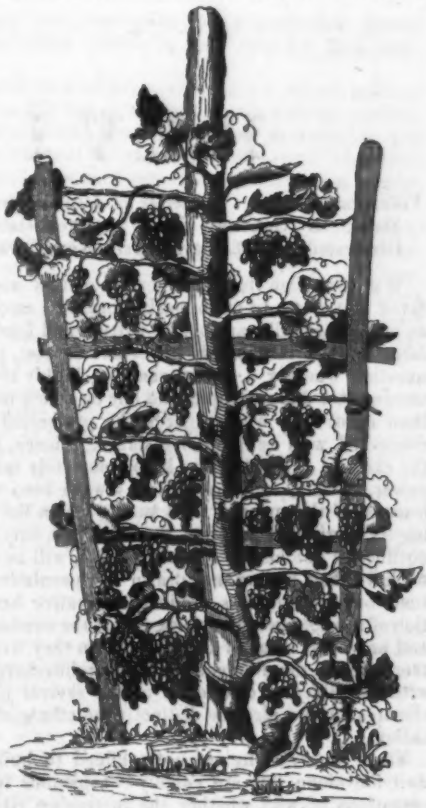
Champion of England.—Three to four feet. Vines strong; sets full. Pods large; eight to ten peas in each one of the very best.

Large Dwarf Marrowfat. — Four feet. Side by side with Champion of England. Two weeks later.

Sugar or *Eatable Pod.*—Four feet. Strong vines. Not as productive as Champion of England, but one of the good sorts.

Prince Albert.—Two to three feet. Early. Pods medium, full. Vines strong. Very good.

Your correspondent, "A Pennsylvanian," in July, last year, says: "I place Belmont or Mamma Beam Apple as from Virginia." Please ask him to refer to my book, and state just what I do say. There has been much dispute as to the origin of this apple, and others have written who claim to know as much as "A Pennsylvanian."



Pruning the Grape Vine.

THE BEST GRAPES.—The largest and finest forced grapes we have seen this season were produced by the care of Mr. William Chorlton, on Staten Island, N. Y. Such glorious bunches of Cannon Hall Muscat, and Muscat of Alexandria, have never before met our view. Mr. Chorlton practises well what he teaches so thoroughly in his book on the grape.

REVIEW.

Villas and Cottages. A Series of Designs, prepared for Execution in the United States. By CALVERT VAUX, Architect (late Downing and Vaux), Newburgh. Illustrated by 300 Engravings. New York.

WE have risen from the perusal of this work with a strong impression in its favor. It seems to us to mark a progress among us, when such wholesome truths as our author tells, are boldly written and fearlessly promulgated. His topic is a large one; it is a highly important subject, embracing almost, if not quite, the question whether a nation shall be highly civilized, or half barbarian? It is, moreover, a difficult topic, and one on which more authors have been utterly inane than most. In what regards the protection and accommodation of civil life, connected with religion, legislation, science, commerce, and domestic purposes, the exercise of architecture is so completely influenced by the state of knowledge, power, climate, &c., that it has always been found one of the most distinctive features of that people, from among whom the specimens were selected. In tracing its origin and progress, therefore, not only the various genius, but the leading outlines of the history of each people, will be delineated. In their public works we have their history, not drawn by speculative strangers, at different periods of time, but in characters produced by native hands, guided by the united disposition of a whole people, arising out of the combination of all the knowledge, power, and prevalent ideas of the times when they were constructed. By a comparison, therefore, of the different works in architecture, we are not only made acquainted with the different characters of the several portions of mankind under various climates, but we also see distinctly the effects of political changes on each separate nation.

These observations are not confined to buildings adapted to the purposes of civil life alone, but are equally conspicuous in all that are constructed for the operations of war, whether the increasing rivalship of nations have rendered it necessary that they should be carried on by land or sea. The works of each are of great importance to the concerns of mankind. Government takes under its charge the naval and military constructions, but leaves the civilians to take care of themselves. Fitting teachers are therefore important, to guide the taste of a people like our own, where we have the utmost freedom, and plenty of means to do as we like with brick and wood, and to outrage the proprieties as we please.

Downing was among the first who came to the rescue; he exhibited to our population that living in houses well designed and neatly constructed, well colored and well ventilated, was a much more rational proceeding than had heretofore been believed, and we were taught by him, that to make home lovable, it should be made attractive. From his advent, we date a vast improvement, but that improvement must still be onward. In Mr. Vaux, we find evidences of a determination to teach all that is known; he throws out hints of vital import, and insists upon our keeping an eye upon the solid benefits which flow from increased knowledge when backed by increased means and a higher civilization. Such men do a positive good; they not only make their marks on the age in which they live,

by their correct architecture, but they teach those who have already their houses constructed, how to occupy them, and what should be their aims for their busy, no less than their idle moments.

We do not propose (nor could we if we wished) to enter into a minute analysis of this large and beautiful volume. We are even more struck with the preliminary chapter than with the handsome houses figured, and their descriptions, and shall be content to-day with a few extracts, to exhibit the force with which the author grapples with a topic on which it is more rare than would at first appear, to be original, agreeable, and concise.

Mr. Vaux argues correctly that a simple, well planned structure costs less to execute, for the accommodation obtained, than an ill-planned one. His instructions are well considered, and appropriate to the wants of our country. We like, especially, his remarks on the spirit so rife among us that would consider money the greatest good. When we hear people living in the country talk exclusively about railroad and bank stocks, fast horses, and wine, we pity them, and can adopt the language of our author when he says:—

"There cannot, indeed, be a more unpleasant spectacle than to see active, intelligent men, with long faces and knit brows, incessantly sacrificing time, health, home, and peace of mind, to the one old 'Moloch'—*business*, as if perpetual imprisonment were too good for reprobates, and business must, therefore, be converted into a portable bastile for the use of honest men. Every father, whatever may be his position in life, should undoubtedly use his best endeavors to enrich his children, but not chiefly with money. He should rather aim to start each one from a higher point of industrious, liberal civilization than he himself commenced at, and strive to relieve him from the difficulties that obstructed his own path. The exercise of such a spirit of foresight and progress would soon lead to artistic results worthy of the nineteenth century. It is worth remembering, too, that no occupation need be undignified, no labor graceless."

* * * * * * * * * *

"There is a section of the community to be provided for—the born rich. Individuals in this predicament, in some parts of the world, have a gratifying position at once accorded them on account of their property; but this is far from being the case in America. There is a great deal of toil and consequent wealth in the United States; still, it is money-making, not money made, that commands respect. The science of spending is imperfectly understood, and the unsatisfactory results are apparent enough; but the idea of a moneyed aristocracy is everywhere repelled, at heart, with a scorn so contemptuous that it can scarcely be called indignant. A dilemma springs up from this state of things. Idleness is abhorred by successful men; they insist, therefore, on their sons becoming lawyers, or doctors, or going into business. Then follows a failure, in the majority of cases; for the spur to exertion that makes such pursuits satisfy men, is, in these instances, entirely wanting, as pecuniary circumstances do not, in the least, require the effort. Rich Americans fear lest their offspring may be looked on as useless members of society, and the instinct that leads them to do so is well enough as far as it goes, but the natural independent comment on it all is: Why spend so much time in making and saving money, if it is to be rather an incumbrance than otherwise to the next generation? The real difficulty, and it is a serious one, is the limited range allowed by custom to intellectual energy. It is neither fair to the individuals nor to the society of which they are responsible units, that the sons of rich men should be tied down to one or two money-making pursuits; they ought to be in every department of literature, science, and art, not as dilettanti connoisseurs, but as earnest laborers, striving boldly for a higher national excellence than has yet been achieved. This is *their* proper post. Poor men can scarcely afford to occupy it. It is a glorious position—the only proper one for them to assume; and so long as they neglect it, so long will wealth be misunderstood and misapplied. The rich should study to be practical theorists, so that the less rich may be theoretical practitioners. Every young republican of means in America, should aim to be *aristo*cratic in its literal sense; that is, to be '*aristos*'—the very best. He has advantages which his comrades have not. He can afford to give ample, unembarrassed study to any subject that suits his powers, and to work out its resources quietly and steadily. He should be one step in advance of the rest of creation—a leader in the foremost rank of the foremost band. The value of a class of men thus occupied would be

unquestioned, and it would not be so unnatural, then, for a parent to labor for money, so that his son might enjoy the rightful opportunity to live an easy life of elevated action and noble exertion."

The number of *poor rich men* is becoming every day greater in this Union. The mere rise of real estate has placed very many in independent circumstances which they know not how to enjoy, from neglected education and energies thrown away. Some retire to the country, but when the architect and the planter have been dismissed, they feel an utter vacuity of mind, and if they are not famous sleepers, they go to the bottle or the card table. Had they been taught a single branch of natural history, or imbibed a love for a garden and for trees, their time would never hang heavily on their hands.

Education should begin early. "The lack of taste all over the country, in small buildings, is a decided bar to healthy, social enjoyments; * * a refined propriety, and simple, inexpensive grace, ought habitually to be the distinctive marks of every habitation in which a free American dwells."

"Unfortunately, however," continues our author, "this is not the case. Even the village school itself, in which the earliest and most active germs of progressive thought are commenced, is almost universally a naked, shabby structure, without a tree or a shrub near it, and is remarkable chiefly for an air of coarse neglect that pervades its whole aspect. The improvement of the village school-house is probably the most powerful and available lever that can be applied toward effecting a change for the better in the appearance of rural buildings generally: all see it, all are interested in it, and all are more or less influenced by its conduct and appearance. It is placed under the control of the leading men in each place, and it might easily be made the most cheerful and soul-satisfying building in the neighborhood, instead of, as at present, a God-forsaken, forlorn-looking affair, that is calculated to chill the heart and insult the eye of every thoughtful beholder. The cost would be utterly incommensurate with the advantage to be obtained. An extra hundred or hundred and fifty dollars at first starting, would do much. The roof might then have a good projection, and be neatly finished. Some sort of simple porch might be added, the chimney might be slightly ornamented, and the rest would then depend on proportion, color, and surrounding the building, from time to time, with shrubs, creeping vines, and young trees. These, in after years, would offer a welcome shade, and give an air of domestic comfort and liberal vitality to the whole effect. A similar result, through precisely similar means, would probably, in course of time, be arrived at in the small cottages in its vicinity, and, as success would be cheap and invariable, the example would have a fair chance of spreading."

It is one of our painful duties to pass several times a month a public school-house near Philadelphia, where a large collection of children are supposed to be educated; every inch of the yard, not trodden over, is filled with the vilest weeds, and in wet weather the approach is through deep mud. What can be expected of children when they are educated to think such a scene even bearable? The selection of the directors, or of the teachers, in this particular instance, must have been an error.

There is much, in the same strain of good sense, which our limits forbid us from copying. One additional extract will afford the reader an opportunity of judging of the merit of the book, which we have the more pleasure in commending, because it has not been sent to us for notice:—

"It has been, and is too much the custom, both in town and country houses, to consider the dining-room as a part of the house to be used solely for eating and drinking purposes, and to give it but little attention for that reason. It is, indeed, quite common to find, even in comparatively large houses, a meagrely-furnished apartment in the basement set apart as the scene of whatever daily festivity is carried on in the house.

"If a country residence is built on sloping ground, so that the basement rooms on one front are entirely unobstructed, and are supplied with windows overlooking the garden, this objection is not so strong. But even then, the trouble of going up and down stairs to and from the sitting-room is annoying, and it is far preferable to have both rooms near together

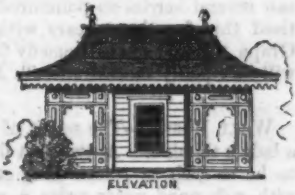
on the principal floor. But when, as is generally the case, the house is built on level ground, and the lower rooms are lighted solely by area windows, nothing can be more entirely opposed to the idea of freedom that is suggested by life in the country than a basement dining-room. It is in this apartment that the different members of the family are sure to assemble several times a day, though they may be almost completely separated at other times by circumstances, or the various pursuits that occupy their attention, and it is highly desirable that such a room should fitly and cheerfully express its purpose, and be one of the most agreeable in the house, so as to heighten the value of this constant and familiar reunion as much as possible, and to encourage in every way, by external influences, a spirit of refinement and liberal hospitality. The fact is, that the art of eating and drinking wisely and well is so important to our social happiness, that it deserves to be developed under somewhat more favorable circumstances than is possible in a basement dining-room. There is no necessity, in any country house, that such a room should be restricted in its use to one purpose. If fitted up with book-cases, and enlivened by engravings, it will be constantly used as a family room; for, with proper pantry arrangements, it can be left entirely free in a few minutes after each meal."

Design for Oak Mantlepiece.

The accompanying vignette gives a slight sketch of an oak mantlepiece, introduced into a design for a dining-room, executed for H. W. Sargent, Esq., of Fishkill Landing, on the Hudson. It required to be simply planned, so that it could be easily executed in the country by a clever carpenter. The effect is excellent.

No previous volume has appeared among us, on this subject, so ably illustrated, and though the reader in search of a model for his dwelling, should fail to find the exact picture that will suit his wants, he cannot read the text without acquiring an amount of information vastly beyond the cost of the book.

We have prepared some copies of Mr. Vaux's able illustrations, but having exhausted our limits, must be content, this month, with a vignette illustrating a study for a garden out-building, supposed to be situated where it *must* be seen, more or less. Mr. Vaux says it has not been executed. We look upon the work as of so much importance that we shall return to it.



FOREIGN NOTICES.

BUDDING ROSES.—Among the many methods for budding roses, I have found none answer so well as the following, which I have adopted for some time, and which, I think, should be more generally known. The bud for insertion is taken off the shoot very close to the eye; the tip, or part of the bark below the bud, is cut off quite close, to allow the bud to be pushed closer into the stock without being bruised. It then requires only to be tied above the bud, and a composition applied to exclude the air and keep the bud cool, consisting of two-thirds cow-dung and one-third stiff loam. The bud requires no untying, and gradually grows so closely into the stock as hardly to be distinguished from a shoot, and is not so liable to be blown out or injured. The composition is applied in a liquid state with a small brush.—JAMES SKIRVING. *Downham.*

THE CANNON HALL MUSCAT GRAPE.—If this Grape could be managed so that a sufficient quantity of berries could be set on every part of the bunches, and the gangrenous spots prevented on each berry, it would be the finest grape in the world, both for size of bunch, size of berry, and rich, vinous, musky flavor. When even in tolerable perfection, I know no grape to equal it. Unfortunately, it is what we call "a bad setter;" that is, the fertilizing powder is either deficient in quantity, or has no power to cause the seeds to mature. Hence the berries either drop off or are ridiculously small. To prevent, or rather, supply, this deficiency, it is advisable to apply pollen (the fertilizing dust), taken from some other variety. The pollen of the common Muscat will answer well, or even of the still more common Black Hambro'.

The second desideratum, namely, the preventing of the blackish broad spots which often appear on the finest berries, has just been attained by the gardener above mentioned (Mr. Acomb). He says it is caused by an acrid liquor, generated in spots under the outer skin of the berry. Whenever he observes the blister (for it has much that appearance) he opens the skin with a pin's point, and lets out the liquor, which cures it completely, leaving only a small scar. I saw several berries so punctured, and they appeared quite healed. He had practised this for three years with perfect success. Let every grower of this fine Grape try this simple remedy for this destructive disease. I have no doubt he will be equally successful.—T. APPLEBY.

WALL ROSES.—The secret of growing roses against a wall might be packed in a lady's thimble. A two feet deep border of strong loam, four or five feet wide, to be as rich as rotten dung can make it; the border to be thoroughly soaked with soft pond-water twice a week in dry weather, and when the roses are in bloom, to keep them thin in the branches, as if they were peach-trees, and to play the water-engine against them as for a house on fire, from the first appearance of insects till no more come. There is a reason for everything under the sun, and the reason for insects attacking roses in general, and those on walls more particularly, is from too much dryness at the roots, causing the juices to be more palatable through the action of the leaves.

COLORS OF FLOWERS.—The fugitive property of some colors is well known, and in no way better exemplified than as they naturally exist in flowers. The fume arising from a common sulphur match, which is, in fact, sulphuric acid, will change purple and crimson colors to pink. The blue, in combination with red, is readily discharged; indeed, a pink or purple flower might be completely bleached by holding it in the fumes of sulphur. Thus roses and dahlias have been made to assume a variegated and very novel appearance. Bright pink stripes and veins may be produced on the dark purple petals of pansies, and other dark-colored flowers, with a camel-hair pencil and oil of vitriol, to yield rather a pleasing effect. Such lines should not be drawn to the edge of the petal, or a little injury will soon be evident; nor should they be strong or near together, as they quickly spread.—*Maund's Auctarium.*

SALVIA GESNERIFLORA.—The brilliant scarlet flowers of this plant make it a most attractive object in the greenhouse. As soon as it has done flowering, cuttings should be taken off, and struck in a moderate bottom heat; and, when struck, harden them off gradually till they will bear placing in the open air. Repot as they require it, using soil as follows: Two parts turfy loam and one part rotten manure. Give them plenty of drainage, but never let them want water. A little weak liquid manure will assist them. I always bloom my plants in large pots. By liberal treatment I get good specimens by autumn, some of which I use for early forcing (for which purpose they answer admirably), while others come in well for blooming in the greenhouse. I never keep the old plants a second year, as I find young ones, well managed, do better, for they not only bloom more satisfactorily, but the flowers are much larger.—*Mid. Flor.*

DIELYTRA SPECTABILIS (NOW DIERVILLA).—Although the Dielytra is properly classed as a spring flowering plant, yet, if propagated by cuttings of the young shoots in the spring, and planted out in June in a sheltered situation, it will continue to throw up a succession of blooms till late in the season. It thrives best in a rich light soil, and should be plentifully supplied with water in dry weather. Last season I saw a bed so treated in the front of a greenhouse, in bloom in September, and it appeared likely to continue in flower much longer, if frosts did not occur. To procure a stock of plants, a few old roots should be placed in heat in February; take off the young shoots as they advance, and strike them in a similar way to dahlias; they should afterwards have a shift, and be kept in a frame till all danger of frost is over, when they may be planted out as above.

Another authority says:—

It is decidedly wrong to recommend dividing a plant of *Dielytra* at any season it may be in growth, with the view of strengthening the plant. You may divide it for the purpose of increasing the number of plants.

The way to manage them for large specimens is to put them into their *flowering-pots* as soon as it is safe to turn them out after flowering; to plunge the pot one inch over the rim in a warm, sheltered place, where the wind is not likely to affect the shoots; to see that the plants do not want for water, or have too much of it; to cut them down any time after the 20th of September; to take up the pots and turn them on their sides in a dry shed or outhouse early in November. When we transplant the roots from the open ground the flowers are not so fine.

CAN FLOWERS BE GROWN IN A CITY?—This question has often been asked by the admirers of those fragrant gifts of nature. As a lover of a garden, and being doomed to pass the greater part of the year in a city, I determined to try

if I could not have a few of my favorite companions around me. I erected a small greenhouse (against a western wall), and have now as good a show of plants in blossom as I ever saw in the county of Wicklow, where our country-place is situated. I have had some fine Cineraria plants, several remarkably good Cytisus, and several fine forced roses. I think, from my observation of a town garden, that the best growing plants are Roses; next, Cinerarias and Cytisus. Sweet-scented Geraniums thrive very well also. To any one determined to pay a little attention to flowers they can have as good a bloom of the above as if they lived a hundred miles from the smoke of a city. I hope to fill my greenhouse with some Pelargoniums I have kept back in a small frame.—FLORA.

BEAUTY OF FLOWERS.—Who would wish to live without flowers? Where would the poet fly for his images of beauty, if they were to perish forever? Are they not the emblems of loveliness and innocence—the living types of all that is pleasing and graceful? We compare young lips to the rose, and the white brow to the radiant lily; the winning eye gathers its glow from the violet, and the sweet voice is like a breeze kissing its way through the flowers. We hang delicate blossoms on the silken ringlets of the young bride, and strew her path with the fragrant bells when she leaves the church. We place them around the marble face of the dead in the narrow coffin, and they become symbols of our affections—pleasures remembered and hopes faded, wishes flown, and scenes cherished the more that they can never return. Still we look to the far-off spring in other valleys—to the eternal summer beyond the grave, when the flowers which have faded shall again bloom in starry fields, where no rude winter can intrude. They come upon us in spring like the recollections of a dream, which hovered above us in sleep, peopled with shadowy beauties and purple delights, fancy broidered. Sweet flowers! that bring before our eyes scenes of childhood—faces remembered in youth, when Love was a stranger to himself. The mossy bank by the wayside, where we so often sat for hours drinking in the beauty of the primroses with our eyes; the sheltered glen, darkly green, filled with the perfume of violets, that shone in their intense blue like another sky spread upon the earth; the laughter of merry voices; the sweet song of the maiden—the downcast eye, the spreading blush, the kiss ashamed at its own sound—are all brought back to the memory by a flower.—MILLER.

OBSERVATIONS ON FORCING HYACINTHS.—To make Hyacinths flower early in December, they should be planted the beginning of August, and the pot plunged, in the open air, to such a depth that they may be covered with mould to the extent of four inches. They should be taken out again about the middle or end of October, put in warm tan or sand in a hothouse, near the sashes, and kept moist. If treated in this manner, and kept moist and warm, they will not fail to flower about the beginning or middle of December. Many other sorts may be brought into flower about the beginning of January. Those forced Hyacinths which are intended to flower in February and March should be planted in September and October, or even about the middle of November, the pots being plunged in the open air, and covered with mould. A bed should be made at the beginning of January, consisting of horse dung, four or five feet deep; it should remain in that state about a week, and then as much mould added as will cover the pots when they are sunk in it. The pots should be now all put in, and the sash raised four or five inches to admit air both night and day, so that the steam generated by the heat may readily escape. This must not be neglected, even during frosty weather, otherwise they will perish. During a severe frost it may be thought

that admitting the air is quite unnecessary, but it should not be omitted, only hanging cloths over the opening.

EARLY BLOOMING ACACIAS.—Many plants, of which the natural season of blossoming under glass is in the winter or early spring months, acquire additional value from that circumstance, because their intrinsic beauty is then heightened by contrast with the "desolation that reigns without." Many of the New Holland Acacias possess this desirable property, which, in some species, is combined with exceeding beauty, as well as gracefulness of habit; consequently, there are no plants better adapted for ornamenting a conservatory, where they can be allowed sufficient room to display unconfined their elegant growth. One of the finest species for this purpose is *Acacia dealbata*, of which there is a splendid specimen, now in the height of its beauty, in my own conservatory. I have seldom seen a plant of any kind equal in beauty to this, its wide-spreading branches being completely covered with a garment of green and gold, or more strictly speaking, with green and deep lemon color; the latter color greatly predominates, however, for the flowers are so numerous that they almost hide the pretty bipinnatifid leaves. This tree roots into a border beneath the floor of the house, and its stem was originally trained to one of the pillars that bear up the roof; but the stem is now larger than its former support, and the branches extend in different directions to a distance of several yards. It has been planted about eight years. A fine plant of *Acacia vestita* grows against another of the pillars. This, from its profuse flowering and pendulous habit, is a very handsome species, and requires much less room than *dealbata*, which precedes *vestita* in flowering by nearly a fortnight. To these might be added other desirable kinds, as *Acacia armata*, a very free flowering species, with flowers like golden balls; *A. Lophanta*, with long spikes of whitish flowers; *A. verticillata*, with whorls of leaves like spines; *A. melonoxylon*, the Black Wattle of the Australians, with very curious leaves, the footstalks of which look like leaves, with the real leaves hanging to the points of them; and *A. pubescens*, a very elegant species, with drooping branches and racemes of ball-like flowers, borne in the greatest profusion. Indeed, all the species of this genus are highly interesting, and most of them elegant ornaments for the greenhouse or conservatory, deserving of general cultivation.

LAPAGERIA ROSEA.—This splendid plant has hitherto evaded many attempts among us to cultivate it. We find the following account of its treatment recommended in the *Gardener's Chronicle*:—

The handsome Lapageria rosea has been beautifully in flower. It was growing in a wide shallow pan, in which it is found to succeed perfectly. When the proper cultivation of this plant shall have become better known, it will rank among the finest of all greenhouse climbers.

A plant of this Lapageria has been blossoming most beautifully in the nursery of Messrs. Veitch, at Exeter, where it produces flowers every year in the greatest profusion. In that establishment it is planted out in the border of a cool house; a large hole was dug for it, and filled with plenty of good turfy loam and peat, leaf mould and sand, all well mixed together. A particular point in its management is stated to be that it likes plenty of water while in a growing state; in order, therefore, to permit of this being given, the soil in which it grows must be thoroughly drained. In short, efficient drainage, plenty of water, a loose porous soil, and a cool house, are all that is necessary to insure this fine plant growing and flowering abundantly, as it should do. It may also be mentioned that the blooms will keep fresh and beautiful for a long time after being cut, even

in a warm sitting-room, and thus is added one of the most beautiful of climbers to the list of plants adapted to cutting for the bouquets now so generally employed in internal decoration.

THE COCOA-NUT PALM.—Of all the gifts which bountiful nature has bestowed on the inhabitants of the tropics, this, perhaps, is the most valuable, and certainly the one most fitting them for a paradisiacal state of idleness. What other fruit is there in which, as in the Cocoa-nut, we find a refreshing beverage contained in a cool limpid state in a nutritious pulp of the consistence of blancmange, and as agreeable to the taste? In a young nut, the lining pulp of which was thin and almost of gelatinous softness, the quantity of contained fluid exceeded rather half a pint. It was quite clear, as much so as spring water, pleasantly, slightly sweet, of specific gravity 10183. The pulp was rendered brown by the tincture of iodine. No starch particles could be detected in it under the microscope, nor oil globules. The water of a ripe Cocoa-nut, much less in quantity and nearly transparent, was of the specific gravity 10203. It did not become turbid on boiling, or by the addition of acetic or nitric acid. Sugar, it may be inferred, was its principal ingredient. The lining pulp was found to consist of 36 per cent. solid matter and of 64 water, as determined by thorough drying. As is well known, it abounded in oil. I could detect in it no starch particles. In composition, I believe it to be very like the ripe almond. The emulsion it makes is equal to that of the almond, and is an excellent substitute for milk for tea. The Cocoa-nut Palm, I may add, thrives best by the seashore; it thrives even within high-water mark. Viewed in this light, may it not be considered as designated by a kind Providence to yield a drink in situations in which springs of fresh and wholesome water are often not to be found. It is only the traveller in such regions who can justly appreciate its value, and be sufficiently thankful for such a blessing. In Ceylon, the natives are in the habit of putting a portion of salt into the ground when they plant the nut, so convinced are they that salt is required for its successful growth.—DR. DAVY, in the *Edin. New Philosophical Journal.*

VARIEGATED PLANTS.—At the Crystal Palace Exhibition near London, a Mr. Salter, among other variegated plants, showed a strawberry and a lily of the valley.

DWARF TREES.—There are many miniature trees, which typify their more gigantic brethren of the forest, that may be introduced with advantage to grounds of limited extent, and which, after many years' growth, arrive at only a few feet elevation. Of elms, there is *Ulmus viminalis;* maples, *Acer creticum;* beech, *Betula nana;* alder, *Alnus glutinosa oxycanthæfolia;* chestnut, *Pavia flava;* besides which are others less known as *Tilia laciniata*, *Pterocarpa Caucasica* (a type of the walnut), with several dwarf oaks, the neatest being *Quercus Ilex coccifera* and *Quercus ilicifolia; Buxus balearica* makes a pretty tree in sheltered situations; *Caragana Chamlagu* is a very graceful tree—the foliage a bright, handsome green, which, with the pretty blossoms, produce a handsome effect; *Robinia hispida*, when worked on a short stem, is unrivalled for beauty. Small evergreen trees, of great value for ornament, may be made of *Juniperus recurva* and *squamata.* There are not many pinuses suitable for the purpose, as the majority are too tall and rapid in their growth, but perhaps *Pinus cembra* (which is a handsome species, and of very slow growth), may be admitted, and the singular *Araucaria imbricata* is many years in attaining an objectionable height.

A Rustic Basket gay in Summer.—The Rustic Basket is the best design for a flower-garden; and if people would but countenance such artistic designs, instead of the present race of hideous mongrels which offend the eye at almost every turn, it would be really worth while to write about how to fill them with the most appropriate flowers.

"W. W.'s" rustic basket should not have more than twelve inches depth of mould in it. On no account leave the pedestal full of mould, at least, not more than this season. All baskets and vases should have more holding soil than flower-beds for the same plants; a stronger kind of loam: in a country place, sheep's droppings, gathered a month before, make the best manure, and give the best mechanical texture to the loam. Three inches at the top should be mixed with leaf mould and some sand, so as to make a light, rich, mellow soil of it. They plant and manage the vases very well indeed at the Crystal Palace. But you may make your rustic basket more gay and telling than any of their vases, if, after attending to the compost just indicated, you keep the planting *strictly* to three kinds of plants; two of them to be of most distinct colors—scarlet and yellow; and the third, a half-distinct color—a pale blue; and plant them on this wise: Take, first, a pale blue running *Lobelia* of the *Erinus* breed; they are in all the nurseries, but avoid *Ramosoides;* it is too upright, and too dark a blue next the wood-work. Nothing suits so well here as a pale blue. The plants are in sixty pots; turn one out, and *flatten the ball gently* between your hands till it is nearly as flat as a pan-cake, but do not hurt a root. Open the side at the very edge of your basket, and *lay down* the flattened ball with the root end of the plant as near the rim as possible; the herb part of the plant will then point out horizontally over the edge of the basket, and so on all round, making nearly a continuous hedge all round. Smooth the surface of the basket now, and plant a row of young *Tom Thumbs*, with the heads slanting. After the Lobelias, then another row of old *Tom Thumbs*, quite upright, and fill the middle with yellow-bedding *Calceolarias*, quite full; and the plants must be old ones, and higher than the last row of Geraniums. Water well through a rose, and the thing is done for this season.—D. Beaton.

The Scotch White Cluster Grape.—This was distributed by the Horticultural Society some years since; it is a robust grower and very hardy, with large leaves, but slightly lobed; a most abundant bearer, and rather earlier than the Muscadine; its berries are much crowded in the bunches, and require severe thinning. It is an old Dutch variety; I have received it from Holland under the name of "Vroege Vanderlaan," and "Vanderlaan Précoce."—T. Rivers.

The Apple.—Apples have been believed by some to have been introduced into Italy from Media, and that the Falisci, or inhabitants of Montefiascone, were the first to plant them in rows. But this must apply to some particular variety, not to the species, which we have already stated to be indigenous, but very early cultivated. Pliny enumerates twenty-three varieties, which appear still more difficult to identify with ours than the pears. Among the few that modern authors have recognized, the Appiani of the Romans are supposed to be the Appie or Appiole of modern Italians, the Appia pyriformis to be the Appiolona lunga, the Syriaca ruberrima to be the red Calvetto, &c. In more modern Tuscany, Micheli, in his above-mentioned manuscript, describes fifty-six sorts under the Medici princes, fifty-two of which are figured by Costello.—*Journal of the Hort. Society.*

EDITOR'S TABLE.

TRIAL OF REAPERS AND MOWERS.—The great trial of reapers and mowers took place at Hamilton, Ohio, early in July. After a thorough examination, the Committee made the following awards:—

Mower—first premium	$50, Manny's Combined.
" second premium	$30, Ohio Mower.
Reaper—first "	$50, Atkin's.
" second "	$30, Ohio Harvester.
Combined—first "	$50, Manny.
" second "	$30, Iron Harvester.

A QUEEN'S BOOK.—Our table is graced by an elegant octavo of five hundred pages, with plates, with the following title: "The Natural History of Dee Side and Braemar. By the late William Macgillivray, LL. D., Author of a History of British Birds. Edited by Edwin Lankester, M. D., F. R. S., London: Printed for Private Circulation." The Royal arms are displayed on a front page, and inscribed; "This Work, printed by command of the Queen, is presented to ——— ———, by H. R. H. Prince Albert."

The manuscript of the work was completed by the author just before his death; his family not wishing to publish it, the manuscript was purchased by the Queen of England, and printed by her orders. It is local in its descriptions of the natural history of Dee Side and Braemar, and, on looking it through, we are not surprised the author's family declined the publication, as it could scarcely be very popular, however minute and accurate its descriptions. The illustrations are not remarkable.

The Illustrated Bouquet is the title of a periodical just issued (June 1), a quarterly, by E. G. Henderson & Son, London, each part containing five or more plates of flowers, "every plate being intended to form a bouquet of itself," in quarto form. The Messrs. Henderson are extensive nurserymen, and, no doubt, this work is intended to advertise their new plants.

THE second part of Van Houtte's *Flore des Serres* contains, among other things, figures of Achimenes amabilis (a handsome plant resembling Gloxinia tubiflora), the Fancy Pelargonium called Avenir, a new Begonia called Rosacea, Hæmanthus cinnabarinus (from the Gold Coast), a deep crimson Fuchsia with white petals marbled with purple, and oddly enough called Galanthiflora. There is also a plate of the handsome French Camellia-flowered Balsams, and some miscellaneous matter to which we shall probably advert hereafter. These "Balsams" form the most beautiful plate lately published by Van Houtte; they are simply very double "lady-slippers," and will probably become the vogue. We saw them in perfection, lately, at one of our neighbors, the beautiful country-seat of George Roberts Smith, Esq., where his gardener (Alexander Newell) has produced the most beautiful kinds, from French seeds. It is said that the seeds will require to be imported annually, as the plants from seeds in this country degenerate. We cannot, however, vouch for this.

We observe that a new monthly botanical work, to be called "Filices Exoticæ, or Figures and Descriptions of Exotic Ferns, particularly of such as are most deserving of Cultivation," is to appear from the practised pen of Sir William Hooker. Each part is to contain eight colored plates, executed by Mr. Fitch. Such a publication is wanted, and will contribute to the settlement of the names of Ferns, which pseudo-scientific writers have contrived to reduce to deplorable confusion. The work will be published by Lovell Reeve.

The same publisher announces the preparation, by Professor Harvey, of a work to appear in monthly parts, each containing six colored plates and as many pages of letter-press, under the name of *Phycologia Australasica; or, Figures and Descriptions of Australian Sea-weeds.* Publication to commence as soon as a sufficient number of subscribers' names to justify the necessary outlay, shall have been received.

Illustrations of books are sometimes produced in a way indicating that author and artist have not worked in unison; in fact, that the artist has never read the author. A striking example is furnished in Godfrey's *Grinnell Exploring Expedition*, where the author relates that Dr. Kane became so ill with cold that Godfrey had to carry him a long distance on his shoulders, Kane all the time declaring, in his hallucination, that he saw a bear about to attack him. Godfrey takes much pains to assure his commander, and the reader, also, that there was *no bear;* but lo! the engraver, following the illustrator, inserts a bear running alongside! and turning up a very threatening snout. In this way, the public lose their confidence in illustrations, which thus become worthless. We could name a manufactory of wood blocks, where, by changing the *borders* of pictures, one battle scene is made to do duty a dozen times in the same "history," and, after illustrating the American Revolution, appears in the life of Napoleon! There is a class of books of this kind foisted on unsuspecting people, the history of which it will do somebody a service to write. They remind one of the colloquy between the showman and the children: "Look to the right, my little dears, and you'll see the lions attacking *of* the dogs. Look to the left, and you'll see the dogs attacking *of* the lions." "If you please, sir, which is the lions, and which is the dogs?" "Whichever you please, my pretty dears; you've paid your money, and you've a right to choose." This would scarcely answer for botany.

The Calabash-Tree.—Among the products of Cuba, alluded to in our hasty notes on that island, is the long-leaved Calabash-tree, *Crescentia cujete.* This species attains the ordinary height of a pear-tree, being twenty to twenty-five feet in height. As it has been found at Key West, and is therefore American, we abridge a description of it from Nuttall: In the countries where it is indigenous, the wood is employed for saddle-trees, stools, chairs, and other articles of furniture; the fruit varies in form and size from ovoid to round; it is covered with a thin, even, smooth skin, of a greenish-yellow, and under this is a hard and ligneous shell, which contains a soft, yellowish pulp, of an acrid and disagreeable taste, which is employed as a remedy for dropsy, diarrhœa, and inflammations of the chest. Applied externally, it is deemed serviceable in bruises, burns, and headaches. The Indians and cattle sometimes eat the fallen fruit, and the former employ it, when hollowed out, for rattle boxes. This shell of the fruit is used for various kinds of domestic vessels, such as goblets, coffee cups, tobacco boxes, dram bottles, &c., and it is said, even for kettles to boil water in, it being so thin, hard, and close-grained, as to stand the fire several successive times before it is destroyed. We are indebted to D. J. N. Gomez for noble specimens.

The leaves grow out in clusters of nine or ten together. The flowers come out on the trunk and branches, are of a dull greenish-yellow, about one and a half inch long, solitary, and of a disagreeable smell. The dried shells, cut in half for domestic purposes, are sold by the blacks in the Cuba market, and are quite a curiosity.

Don't be in a Hurry.—A correspondent at Clinton, N. Y., says: "I see the *Abies Menziesii* is marked tender about New York. I have wintered a specimen two feet high, which has survived two seasons. The first winter, I gave it a thin blanket of hemlock boughs, and it came out well in spring, nipped only a little in the extremities of its branches. The second winter, I gave it no protection, and, in the spring it looked sadly, every leaf as red as sole leather. I dug it up, and toted it off to the lawn, intending soon to burn it on a brush heap, and set out in its place a fresh and beautiful hemlock. The day after, I came to look after my hemlock, and caught up the apparently dead, 'far-fetched, and dear bought' spruce, and started for the brush heap. But as the buds looked plump, I turned aside, and set the tree against a fence, and threw two or three shovelfuls of earth over the roots, to see whether the doomed thing would live. A few days since, I noticed that it was pushing out fresh leaves on every branch, *determined* to live and to be hardy." This will form a suggestion for the consideration of many. We lately brought home a fine *Quercus Luccombiana*, which a neighbor had pulled up "because it was dead," and have not a better tree. It retains its dead leaves all winter, and comes out late in the spring. Novices destroy many valuable trees from not knowing their habits.

The same correspondent says: "*Salisburia adiantifolia* is with me killed to within three feet of the ground; Kölreuteria paniculata, worse still; *Magnolia acuminata*, top killed, while the deciduous Cypress has wintered better than ever! and so has the Japan sophora. The English Maple is considerably injured." Alack! for half-hardy things! Very many may as well be abandoned as creating more discomfort than pleasure.

Gossip.—A gentleman in Connecticut has succeeded in artificially breeding trout in his cellar, through which he has turned a stream of water.——A few years ago, it was difficult to procure salmon in Paris for less than from two to four shillings (English money) per pound. Now, in consequence of their fast increase through artificial breeding, they have been sold as low, this season, as sixpence per pound. Is there any reason why the people of this country should not "go and do likewise?"——Dr. Carl Müller has commenced a continuation of the *Annales Botanices Systematicæ* of Walpers, of which Vol. IV., Part 1, is before us, extending from Ranunculaceæ to Nymphæaceæ.——In Xenophon's minor works, will be found some excellent remarks on planting, horticulture, &c., that may still be studied with advantage. In one of his treatises, occurs the following: "'Would you merely heap up the earth around the plant, or tread it down hard?' 'I would tread it down,' said I, 'assuredly; for if it were not trodden down, I am well aware that the untrodden earth, if wetted by rain, would be turned into mud, and, if scorched by the sun, would become dry to the very bottom; so that there would be danger lest the roots of the plant, under a prevalence of wet weather, should be rotted by damp, or should be scorched up in hot weather from the roots being heated through the dryness or porousness of the earth.'"——The lesson to be learned from diseases which are dependent upon parasites, whether animal or vegetable, is most important. It is simply that, in our treatment of the maladies of vegetables as well as those which affect our own frame, we should not trust to chance or mere empiricism, but, as a first step, we should study as intimately as possible the nature and habits of the organisms which produce the disease. And to this end, science must be the helpmate of practice, to enable the cultivator to observe and distinguish accurately. A knowledge of the cause of disease is a step more than halfway towards its cure, and thus the student in the obscurest branches of science, against which utilitarian objections may most readily be urged, may prove a real benefactor to his fellow-men.——Calvert Vaux, in his book on *Villas and Cottages*, remarks truly, that "the constant recurrence of about the same requirements will, of course, lead to much similarity of plan, particularly in small buildings; but the monotony that this would occasion, may be agreeably relieved by variety

in color, both in the interior and exterior. Different patterns of paper will make two rooms of the same proportions no longer look alike, and the same result will be obtained on the exterior, by adopting different tints for the walls and the wood-work."——The use of a philosophical discovery is often slow to get some of its most useful applications. The invention of a double-walled pitcher, is an instance: Ice put into a pitcher of this kind with water, remains ice all the hottest day, to the great convenience of the family. We made double walls for ice-houses, and then brought the ice up, for fifty years, to be melted in an hour. Every one who has used the new ice-pitcher, will commend it to his neighbors.—— We are pleased to see that a marl Company has been formed for distributing the green-sand marl of New Jersey. The Company sell it at seven cents the bushel, which, when dry, weighs eighty pounds, and is said to contain five per cent. of potash, or nearly as much as there is in a bushel of unleached wood ashes. There can be no doubt that it contains much that is necessary to our commonly cultivated plants. Charles Sears, Riceville, N. J., is President of the Company, and T. Townsend, 82 Nassau Street, N. Y., Treasurer. Having witnessed the beneficial effects of marl on grass lands many years since, we are prepared to believe the use of it in gardens and greenhouses may be highly important.——Our readers must have been struck with the name of the Director of the "Acclimation Society" at Algeria, mentioned in our last "Gossip." They are ascertaining which plants can be acclimated, and the Director is Monsieur *Hardy*.——A book, by M. Field, on *Rural Architecture*, just published in New York, by Miller & Company, asserts that the greatest lovers of the country, are those who live in cities! This will be news to most.——A gardener, the other day, made a calculation that he could find work in the village gardens where he resides, but about ninety days in a year. The business begins in April or May, and ends in August or September; take away from one hundred and fifty days the rainy and the Sundays, and it will be discovered he is nearly correct. We have thus about eight months of *winter*, as he would say, at the North. It is bad enough, we admit, and we shall never scold very hard at those who seek a milder climate after Christmas.——The first question two acquaintances or friends put to each other is: "How do you do?" proving that health is uppermost in our appreciation of happiness. The second expression is: "Fine weather to-day!" proving, also, that after health, the greatest blessing is the enjoyment of a fine day. The weather to us, in fact, is somewhat the same as the water to the fish. It is a less dense medium, but we move and swim in its air as fish do in water, and it is a great consideration whether that medium be dirty or clear, cold or warm, depressing or exhilarating; *therefore*, it is wise to leave the South in the warmest weather, and flee to the mountains, and also to leave the North in the coldest, and flee to Florida or Cuba.——Sir William Hooker writes to a valued American correspondent: "This week I have received a fine collection of museum objects from Java, and another from the Falkland Islands. Among the latter, a splendid specimen of the "Balsam Bag" (*Bolax glebaria*), two feet high and ten feet in circumference—a compact hemisphere, this *one specimen* weighing four cwt." Do any of our readers know more about this production?——Upon the coast of Provence, there is a portion of the Mediterranean called *La Prairie*, or the Meadowy Sea, the bottom being covered with plants. Such plants, it is supposed, were at the bottom of the Red Sea when a green field was opened for the Israelites to pass over.——In the expression of David, "Sharp arrows of the mighty, with coals of Juniper," commentators have endeavored to show that Juniper not only abounds in a penetrating oil, but that the coals of the wood will keep a glowing fire for the space of a year. "For want and famine," says Job, "they were solitary; they cut up mallows by the bushes, and juniper roots for meat." These terms apply, no doubt, to some other plant than our juniper.——An old treatise on "Hawking and Falconry," gives receipts for curing the diseases of the birds. They were purged with a mouse and boiled chicken; they used, also, the ink of cuttle fishes, with betony, wine, and honey, infusions of rhubarb,

agaric, &c. In short, they had quite a hawk pharmacopœia, wrapping them up in blankets, using fomentations, steam and vapor baths, and giving nettle seeds and butter! A green lizard cut up, or a tortoise out of the shell, cured them when in consumption! Queer old practitioners were the hawk doctors.

Clusia.—One of the plants noticed in the trip to Cuba as the emblem of ingratitude, is the Clusia. As we remarked elsewhere, the botany of the Island is a *terra incognita* to Northern men, and their knowledge is put to a severe test during a short residence like our own; having lost the leaves, and, indeed, our whole collection of plants, we referred to a correspondent in Havana for confirmation of the species. The search for the name of the plant has revealed, from an obscure corner, the history of the individual after whom the Clusia is named, and it is as thoroughly a melancholy story as well can be recorded of a scientific man.

"The Clusia was so called, after the celebrated Charles de l'Ecluse, born at Artois, in 1526, and died in 1609. He was one of the most excellent botanists who ever lived, and author of many works whose value will only cease with the world. But he is not more known for his mental excellence than for his personal calamities. In his early youth, he undertook to travel through Portugal, Spain, England, Hungary, and other countries, in pursuit of plants—no easy task in those days. By excessive fatigue, he contracted, so soon as his twenty-fourth year, a dropsical complaint, of which he was afterwards cured with chicory, by the celebrated Rondelet. At the age of thirty-nine, he broke his right arm, during one of his botanical rambles; and a short time afterwards, his right thigh. When fifty-five, he dislocated his left ankle, while at Vienna; and eight years after, his right hip. Having been unskilfully treated, he was ever after obliged to walk with crutches. The consequent deprivation of his natural exercise brought on other diseases, among not the least distressing of which were calculus and hernia. After having been the Director of the Imperial Garden of Vienna for fourteen years, he returned to his native country (Flanders). He was named Professor of Botany at Leyden, where he gave botanical lectures for sixteen years, when he died, overwhelmed by the multitude of his bodily infirmities, but retaining his faculties unimpaired to the last."—*Loudon's Encyclopædia of Plants*, p. 866.

M. Bonpland.—According to late news from Corrientes, M. Aimé Bonpland has, in spite of his very advanced age, set out on a new botanical excursion to the State of Paraguay, the results of which are to benefit the collections of the National Museum at Corrientes, founded by M. Bonpland himself. The length of life of the two friends, Humboldt and Bonpland, is extraordinary.

Thujopsis dolabrata, is the name of a new evergreen with the foliage of a deep green on one side, and silver-white on the other, possessing ornamental qualities that make it desirable. It is a tall tree, with a thick trunk, and a hard, red wood, in request in its native country (Japan), for building purposes. Its head is pyramidal, and formed of spreading, or even drooping branches. Its hardiness has not yet been established.

Roses.—The new and favorite roses of England, and France, and Belgium, all bloomed magnificently at Rosedale (Mr. Buist's garden, near Philadelphia), the present season, viz: Bacchus, Lord Raglan, Emperor Napoleon, General Jacqueminot, Salet, &c., and will soon be ready for dispersion among amateurs of this most charming of flowers.

The Osage Orange.—As a tree for trimming into varied shapes, we possess nothing more patient of the shears than the Maclura. It grows rapidly, and will take any form required.

We have noticed a tree near Baltimore, in "Visits to Country Places" (page 351), which, by topping, had spread in the most extraordinary manner; and we have a plant of considerable size trimmed into a large column, which looks at a short distance like a huge box-tree; its only disadvantage is its deciduous character, and late leafing.

Wistaria violacea.—This new Wistaria bloomed, for the first time, in this country the present season (June 28), on Mr. Buist's piazza. Mr. B. obtained it in France, a few years ago. It is later in blooming than the other species; the racemes more dense, the flowers prettily variegated, having a shade of yellow, violet, and purple blush. Withal, it is quite fragrant, and a great acquisition.

A Parlor Fernery may resemble the accompanying cut. The matter of chief importance is the selection of ferns, the smaller suiting better than those of large growth. The hardier sorts, cultivated in pots, may be set out, under shelter, in summer, on a layer of sifted coal-ashes or tan. The drip may be obtained by suspending over the plant a vessel of water, out of which a worsted thread should hang. This supplies a succession of water-drops, which should fall on a stone beside the plant, and above the pot. The ordinary soil for ferns in pots, is a mixture of equal parts of soft peat, fine sand, finely broken potsherds, and charcoal; this may be used in the parlor fernery, which will prove a never failing source of amusement, if attended to and kept suitably moist, without exposure to the sun.

A powerful Pumping Engine.—One of the most ingenious and powerful machines for submarine operations is the Gwynne Pumping Engine, capable, when driven to its full capacity, of discharging the prodigious quantity of one thousand barrels of water per minute. By means of this wonderful machine, a sunken vessel, even in eighty feet of water, can be pumped out, filled with air, and thus raised without any injury. It is not necessary to attempt to make the sunken vessel perfectly tight; for leaks, admitting one thousand gallons per minute, are of slight consequence where the engine will discharge as many barrels in the same time. In case, however, of vessels being considerably shattered and broken, the application, in addition, of pneumatic and hydrostatic lifting power, will effect the object desired.

Evergreens.—A new Enemy!—A valued correspondent writes, on the 28th of June: "Do you know that, with consternation, this morning I discovered that my large Norway firs (seventeen years old) are curiously affected? They have only grown, in patches and spots, some of the terminal shoots, but the inner ones not started; the old foliage looks dirty and diseased, and, on examination, I find them more or less injured *by red spider!* My theory is, that what with cold winter, and a cold, rainy spring, and the great shade to the ground from the large masses of lower limbs laying on it, the ground and roots have not got warm enough, even yet, to start anything except the extreme tips, which are full of younger life and exuberance. In the mean time, this growth having stopped, what is to become of the rest? Will it grow out of season later, or hold over for another year?"

Improvement of the Portable Steam Engine.—The great improvement added to this machine consists of the attached endless railway, which is composed of a series of flat

agaric, &c. In short, they had quite a hawk pharmacopœia, wrapping them up in blankets, using fomentations, steam and vapor baths, and giving nettle seeds and butter! A green lizard cut up, or a tortoise out of the shell, cured them when in consumption! Queer old practitioners were the hawk doctors.

Clusia.—One of the plants noticed in the trip to Cuba as the emblem of ingratitude, is the Clusia. As we remarked elsewhere, the botany of the Island is a *terra incognita* to Northern men, and their knowledge is put to a severe test during a short residence like our own; having lost the leaves, and, indeed, our whole collection of plants, we referred to a correspondent in Havana for confirmation of the species. The search for the name of the plant has revealed, from an obscure corner, the history of the individual after whom the Clusia is named, and it is as thoroughly a melancholy story as well can be recorded of a scientific man.

"The Clusia was so called, after the celebrated Charles de l'Ecluse, born at Artois, in 1526, and died in 1609. He was one of the most excellent botanists who ever lived, and author of many works whose value will only cease with the world. But he is not more known for his mental excellence than for his personal calamities. In his early youth, he undertook to travel through Portugal, Spain, England, Hungary, and other countries, in pursuit of plants—no easy task in those days. By excessive fatigue, he contracted, so soon as his twenty-fourth year, a dropsical complaint, of which he was afterwards cured with chicory, by the celebrated Rondelet. At the age of thirty-nine, he broke his right arm, during one of his botanical rambles; and a short time afterwards, his right thigh. When fifty-five, he dislocated his left ankle, while at Vienna; and eight years after, his right hip. Having been unskilfully treated, he was ever after obliged to walk with crutches. The consequent deprivation of his natural exercise brought on other diseases, among not the least distressing of which were calculus and hernia. After having been the Director of the Imperial Garden of Vienna for fourteen years, he returned to his native country (Flanders). He was named Professor of Botany at Leyden, where he gave botanical lectures for sixteen years, when he died, overwhelmed by the multitude of his bodily infirmities, but retaining his faculties unimpaired to the last."—*Loudon's Encyclopædia of Plants*, p. 866.

M. Bonpland.—According to late news from Corrientes, M. Aimé Bonpland has, in spite of his very advanced age, set out on a new botanical excursion to the State of Paraguay, the results of which are to benefit the collections of the National Museum at Corrientes, founded by M. Bonpland himself. The length of life of the two friends, Humboldt and Bonpland, is extraordinary.

Thujopsis dolabrata, is the name of a new evergreen with the foliage of a deep green on one side, and silver-white on the other, possessing ornamental qualities that make it desirable. It is a tall tree, with a thick trunk, and a hard, red wood, in request in its native country (Japan), for building purposes. Its head is pyramidal, and formed of spreading, or even drooping branches. Its hardiness has not yet been established.

Roses.—The new and favorite roses of England, and France, and Belgium, all bloomed magnificently at Rosedale (Mr. Buist's garden, near Philadelphia), the present season, viz: Bacchus, Lord Raglan, Emperor Napoleon, General Jacqueminot, Salet, &c., and will soon be ready for dispersion among amateurs of this most charming of flowers.

The Osage Orange.—As a tree for trimming into varied shapes, we possess nothing more patient of the shears than the Maclura. It grows rapidly, and will take any form required.

We have noticed a tree near Baltimore, in "Visits to Country Places" (page 351), which, by topping, had spread in the most extraordinary manner; and we have a plant of considerable size trimmed into a large column, which looks at a short distance like a huge box-tree; its only disadvantage is its deciduous character, and late leafing.

Wistaria violacea.—This new Wistaria bloomed, for the first time, in this country the present season (June 28), on Mr. Buist's piazza. Mr. B. obtained it in France, a few years ago. It is later in blooming than the other species; the racemes more dense, the flowers prettily variegated, having a shade of yellow, violet, and purple blush. Withal, it is quite fragrant, and a great acquisition.

A Parlor Fernery may resemble the accompanying cut. The matter of chief importance is the selection of ferns, the smaller suiting better than those of large growth. The hardier sorts, cultivated in pots, may be set out, under shelter, in summer, on a layer of sifted coal-ashes or tan. The drip may be obtained by suspending over the plant a vessel of water, out of which a worsted thread should hang. This supplies a succession of water-drops, which should fall on a stone beside the plant, and above the pot. The ordinary soil for ferns in pots, is a mixture of equal parts of soft peat, fine sand, finely broken potsherds, and charcoal; this may be used in the parlor fernery, which will prove a never failing source of amusement, if attended to and kept suitably moist, without exposure to the sun.

A powerful Pumping Engine.—One of the most ingenious and powerful machines for submarine operations is the Gwynne Pumping Engine, capable, when driven to its full capacity, of discharging the prodigious quantity of one thousand barrels of water per minute. By means of this wonderful machine, a sunken vessel, even in eighty feet of water, can be pumped out, filled with air, and thus raised without any injury. It is not necessary to attempt to make the sunken vessel perfectly tight; for leaks, admitting one thousand gallons per minute, are of slight consequence where the engine will discharge as many barrels in the same time. In case, however, of vessels being considerably shattered and broken, the application, in addition, of pneumatic and hydrostatic lifting power, will effect the object desired.

Evergreens.—A new Enemy!—A valued correspondent writes, on the 28th of June: "Do you know that, with consternation, this morning I discovered that my large Norway firs (seventeen years old) are curiously affected? They have only grown, in patches and spots, some of the terminal shoots, but the inner ones not started; the old foliage looks dirty and diseased, and, on examination, I find them more or less injured *by red spider!* My theory is, that what with cold winter, and a cold, rainy spring, and the great shade to the ground from the large masses of lower limbs laying on it, the ground and roots have not got warm enough, even yet, to start anything except the extreme tips, which are full of younger life and exuberance. In the mean time, this growth having stopped, what is to become of the rest? Will it grow out of season later, or hold over for another year?"

Improvement of the Portable Steam Engine.—The great improvement added to this machine consists of the attached endless railway, which is composed of a series of flat

boards, six in number, plated with iron on both sides of each wheel, equal in length to the radius of the wheel, and from ten to sixteen inches in width, loosely attached to the felloe of the wheel in such a manner that they are carried round it as it revolves. Each in succession is laid flat on the ground in front of the wheel, and lifted again, in its rear, as soon as passed over. On the surface of the boards next the periphery of the wheel, an iron rail and boards are fixed on which the wheel runs, thus corresponding to the sleepers of an ordinary railway, so that the wheels carry their own rails and sleepers with them, laying down a literally endless railway whenever they are set in motion. This is now adapted to the common portable engines, thus making them locomotives capable of going any distance on roads, instead of being dragged. It will thus travel over soft and marshy ground where no roads exist, up and down hill, and over rough and uneven ground. This is the English invention of Mr. Boydell, and should be adopted among us.

THE ISABELLA GRAY ROSE.—The English public is greatly excited by the appearance of the Isabella Gray Rose. It is a noble yellow, and the only yellow everblooming rose we have; a noisette climber, of about the hardiness of the Cloth of Gold, from which it was raised from seed by Andrew Gray, of Charleston, S. C., who named it. The first public notice of it appeared in the *Horticulturist* three or four years ago, having been then exhibited before the Pennsylvania Horticultural Society by James Ritchie. It is extremely valuable, and yet scarce, orders from Europe having been numerous.

POETRY!—We do not often publish *poetry*, but the following (which comes to us through that best of periodicals, the *Living Age*, credited to the *Boston Traveller*) appears to us so rural, and, at the same time, so very full of *oddity* and fun, so out of the way in its *versification*, and, withal, so calculated, when read with the proper emphasis, to create more than a smile, that we deviate from our usual course, to give others a hearty laugh. It is to be hoped that "Cayenne Pepper" will continue, and apostrophize other great nuisances of rural life:—

TO A GINNY-FOUL

THAT COMES AND SQUAWKS UNDER HIS WINDER PERIODIKLY, AND MAKES HIM MAD EXCEEDINGLY.

You missuble, speckled critter, you!
What'n thunder 're squawking about?
Does anything hurt you bad? Or do you squawk
That way in Ginny, where you come from,
And so squawks now from educational pregudice?
What'n mischief do you pull your homely head
Out'n from under your wing and squawk for?
What's under your wing to make you squawk,
You speckled swine of a berd?
Somethink offensive, I recken, elsewise
You'd keep it there, for it looks better hid.
What do you get on the fence and squawk for?
Do you see anythink alarmink, you white-gilled,
Speckle-feather, squawking fool?
How do you s'pose a feller can read or rite,
Or sleep, or live, you discordant, old, busted,
Brass, French horn, with all keys open
And the mouth-piece cracked!
I wish I could pizen you, you everlastin', perpetual
squawking machine!
What're you thinking about?—home?—
You rascally epitome of a Ginny war-gong,
A Congo tum-tum and conch-shell,
And down-east village brass band!
Dry up! you speckled parody of a machine shop!
Do you think that's music, you outrageous vocal atrocity!
You boiler maker's exacerbated echo!
You squawking abstract of Pandemonium,
Do you think a feller can afford to furnish boot-jacks,
And so forth, to chunk you with daily, dog you!
May-be you think its funny, you speckled pagan of
African extraction!
Is your squawking sass? or are you 'feard of me, say!
You brazen-throated, sheet-iron-lunged culmination
Of foul creation? Here's my blackin' brush at you!

K. N. PEPPER.

HICKORY.—The Indians (of Florida) hold in great esteem all kinds of sweet hickory-nuts. They crack the nuts, and beat them in mortars; then boil in water, and save the oil. But the most favorite dish the Indians have amongst them, is corn drink seasoned with hickory-nut oil. They pick out the kernels, beat them to a paste, and boil with Indian corn flour, which, being seasoned with a lixivium made of pea-straw ashes, gives it a consistence and taste something like cream or rich new milk, and is called by the traders hickory milk.—*Bartram MS.*

Lilium giganteum.—Have any of our correspondents this new and elegant flower? One is recorded in Norfolk (England), eleven feet in height, "having twenty flowers upon it"—the first leaf only thirteen inches from the soil; below this, the stem is ornamented with the leaves of four strong offsets. Some of the largest leaves, including the stalk, are thirty-two inches long, sixteen inches without the stalk, and as much across.

Mr. G. C. Thorburn, of Newark, N. J., places us under obligations for a box *full* of pleasant novelties in the way of Dahlias that "challenge all Germantown" (they might easily do that, for the Dahlia has gone a little out of fashion hereaway), numerous Chrysanthemums, Petunias, Fuchsias, and Pelargoniums, the Salvia lilliesana, and the Cuphea eminens—all of which we shall cherish, and report upon in due time. The manner in which Mr. Thorburn's plants arrive, is always satisfactory; they look as if they had been packed by a lady's hand, so neatly are they potted and labelled; and, withal, so safely packed, that those *jolters*—the express-men—seem to have no power over the prisoners.

A Propagating Pot, which may be new to some, was shown lately by Mr. Deans, of Scotland. It is of ordinary form, with a large hole in the bottom; over the latter fits an inverted earthenware funnel, perforated all round to the top, on which is a knob which stands above the material with which the pot is filled. This affords complete drainage, and pulling up the funnel by the knob brings the cuttings and soil with it unbroken, thus affording means of examining the state of the roots as often as it may be thought desirable to do so. This pot has been used, we believe, with success in Scotland.

The New Grapes, Golden Hamburg and Bowood Muscat (for the grapery), which we have frequently noticed, are advertised, in this number, as for sale by Mr. Buist. They have, we think, a justly high reputation, and one, at least, of each should be in every large grapery.

The advertisement of Mr. Meehan's seeds, also deserves attention.

The Emblem of Ingratitude.—Since our notes, No. 3 on Cuba, were printed, we have received the following letter from Havana, confirming the facts connected with the curious plant described as embracing the Bishop's house and the Ceiba-trees. It will be read with interest:—

"Havana, June, 1857.

"John Jay Smith, Esq.—Dear Sir: The plants which envelop the Ceiba, Palms, and, in fact, any tree which has the misfortune of coming in contact with it, are not a vine. The most common is the Jaquey, Ficus Indica occidentalis; the other is the Clusia rosea et alba, called here Copey. Both are handsome trees. The seeds are deposited by birds, I suppose, on the bare rocks, or in the hollow of trees. There they germinate at first as humble parasites. Soon after, they send out a smooth, thin root, which lengthens sometimes as much as sixty or eighty yards, until it reaches the ground; there it takes root; another and another is soon after sent out, encircling the tree as with a small twine of a few lines diameter. They keep growing on in thickness until the unfortunate tree is smothered. Each of these filaments or twiny roots unite together, and form of itself magnificent trees, the heart of which is the mother tree which first lent it its support, and gave it food. The Jaquey is often seen forming trees of six or eight yards diameter at the bottom or lowest part. It is a most beautiful tree, and gives a delightful shade. The juice is used as glue, to catch birds. The wood has no application.

"The Copey, or Clusia, is not so large. Its habits are nearly the same. The roots or filaments that shoot downwards to the earth, as thin as they are, can bear the weight of three or four persons. Its large and beautiful flower, its singular shaped fruit, its thick and shiny

leaves, make it a very handsome tree. The juice is a gum resin (which it yields abundantly), at first white, but soon yellow. It may be used as glue for book-binding, as the insects never attack it.

"I now hand you a painting of the flower of the Carolinea-tree, a Pachira of the Bombaceæ family.

"Any information you may desire on the natural history or botany of Cuba, I shall be glad to transmit. I remain, respectfully, dear sir, your most obedient servant,

FRANCISCO A. SAUVALLE."

SULPHUR AND MILDEW.—It seems to me, that the remarks on this subject, at page 335, should not pass without a word of qualification. With regard to the style of that communication, I would simply repeat the remarks of a celebrated writer, that "every man should aim at eminence, not by pulling down others, but by raising up himself, and enjoy the pleasure of his own fancied superiority, without interrupting others in the same felicity."

In the communication referred to, it is asserted that the curing of mildew with sulphur was first published in the *American Flower Garden Directory*, in the year 1832. That it was known in Europe previous to that date, I can well remember, and in Loudon's *Encyclopædia of Gardening* (published in 1822), it is noted as a quotation from a previous work; so that the "*savans* of Europe" have not the discovery to make now. The recent failures of the grape crop in some parts of the world, have been the means of directing attention more particularly to the subject, and, consequently, these receipts are being published for the benefit of those whom it may concern.

I claim to having some experience in grape culture, and I have found no more effectual method of applying sulphur than dusting it over the leaves and fruit when attacked by mildew in cloudy weather, unless dusting it on the flue, and applying a gentle heat, which of course is not available where there is no heater. This method of dusting, your correspondent terms "filthy in the extreme." A slight syringing washes it off. There is no filthiness left, which is more than can be said of the lime and sulphur mixture. Even the "amber colored" water leaves very *filthy* marks on painted wood-work; on this account, I discontinued its use for the cleanlier method of dusting.

As to the *American way*, viz: placing a "few pounds of sulphur on several pieces of boards, and stirring it once a week," you may not have any mildew, if the precautions mentioned are attended to; that is, "unless you give heavy waterings, and allow cold currents of air." As it is generally thought that sudden checks to growth (such as would be occasioned by heavy waterings) and currents of cold air, are the predisposing causes of mildew, it may be supposed that, in their absence, no mildew will appear; consequently, the boards without the sulphur would be equally efficacious.

The past month has, with us, been wet, with much cloudy weather. In a cold grapery, our usual method of dusting sulphur on the floor, has not been sufficient to ward off the mildew. It requires heat to liberate the fumes of sulphur; hence its inefficiency during sunless, cool weather.

"In London," they sometimes syringe with a sulphur mixture, to kill red spider (not to eradicate mildew), which is troublesome when much artificial heat is required. But all filthiness is soon removed by clean water, and they do not find any injurious effects from its use in this way.

My object in writing this was, in the first place, to correct the misstatement of the discovery of curing mildew with sulphur; secondly, to give my opinion upon the merits of dusting it over the plants; thirdly, to caution the unwary how they bring the sulphur and lime amber-colored water in contact with paint; and lastly, to show that the efficiency of sulphur depends upon heat. Yours, very respectfully, A GRAPE CULTIVATOR.

To MAKE SKELETON LEAVES.—In your last "Gossip," mention is made of a new process of painting on anatomized leaves. This is very beautiful work. For the benefit of your lady readers, I give the following, which I take from my note-book, where it was inserted some years ago: "Fill an earthen pot with rain-water; then put in leaves or seed-vessels, selected in a state sufficiently matured for the woody fibre to be completely formed, so as not to be flaccid; at the same time, it should not be too old and hardened. Let them remain in the water, without changing, until they become pulpy, and the outer skin and fleshy matter will brush off (with great care) with a common painter's brush. Should any part of the skin still remain firmly fixed, put them again into the water, and wait patiently. When perfectly clean, bleach them in chloride of lime. Magnolia leaves require about six weeks; pear, tulip, and mulberry-tree leaves, about three; ivy (very pretty veins) requires three months' maceration; orange and lemon leaves, six months." Yours, &c., S.

CATALOGUES, ETC., RECEIVED.—Premiums and Regulations for the Eighth Annual Fair of the Ohio State Board of Agriculture, to be held at Cincinnati the 15th, 16th, 17th, and 18th days of September, 1857. Competition open to other States.

Regulations and List of Premiums of the Sixth Annual Indiana State Fair, 1857, to be held at Indianapolis, October 5th to 10th, inclusive. Officers: *President*—Alexander C. Stevenson, Putnam County. *Vice-Presidents*—William H. Bennett, Union County; I. D. G. Nelson, Allen County. *Secretary*—Ignatius Brown, Indianopolis. *Treasurer*—Salmon A. Buell, Indianapolis. *General Superintendent*—Calvin Fletcher, Jr., Marion County.

Prospectus of the Agricultural College of the State of Michigan. Lansing, 1857. A highly important movement.

Frank G. Johnson's Self-Regulating Wind-Mill, with wood cuts explanatory. N. Davidson, 9 Spruce St., New York.

Addresses delivered at the Dedication of the Clinton (N. Y.) Cemetery, with a copy of the Act of Incorporation. Utica, 1857. This is an interesting pamphlet that all interested in cemeteries should peruse. The address of Professor North is a scholarly and finished oration.

Biographical Memoir of the late François André Michaux. By Elias Durand. From the *Transactions* of the American Philosophical Society, and printed separately in a brochure, 1857. This memoir possesses great interest, but it is imperfect in many points, and its style is that of a translation, the amiable author being of foreign birth. We hope to present its facts in these columns at no distant day; meantime, the memoir of the elder Michaux will be found in our columns this month, paving the way for the life of the son hereafter.

Notice of some Remarks by the late Mr. Hugh Miller, author of the "Testimony of the Rocks," &c. &c. By W. Parker Foulke, Philadelphia, 1857.

ANSWERS TO CORRESPONDENTS.—(T. T. S.). Cornus is derived from *Cornu*, a horn, from the wood being thought to be as hard and durable as horn. The Cornus sanguinea grows in the shade and drip of trees, and is very ornamental in winter, from the red color of its bark, thus forming a valuable plant for thickening shrubberies and strips of plantation that have become naked below. The contrast of color with evergreens has a fine effect.

(A CORRESPONDENT). Capillaire is so called, from being prepared from a plant, *Adiantum Capillus veneris*, which is considered to be undoubtedly pectoral and slightly astringent, though its decoction, if strong, is believed to be a certain emetic. The stem of many species of the ferns to which this is allied, is both bitter and astringent, and is employed in various diseases; one species is used for tea, another is eaten by natives of different countries. The

Tasmannian fern-root is eaten voraciously by pigs; the aborigines roast it in the ashes, peel off its black skin with their teeth, and eat it with their roasted kangaroos in the same manner as Europeans eat bread. The root of the Tara fern possesses much nutritive matter. Many of the ferns are fragrant; one smells of myrrh, and another of benzoin, and a third of roast beef. You will find much pleasure in studying these plants.

June 11.

Wishing to add (in the fall) to my small collection some perfectly hardy, profuse flowering plants that will thrive in a very severe climate, I have made a selection, and would like the sanction of an authority upon which I have long relied.

Respectfully yours, A SUBSCRIBER.

Which of the junipers unites the greatest beauty and tenacity, or is there any other evergreen that does not attain a very large size, possessing these qualities in an equal degree?

Is the European Larch hardy? Aralia japonica, only mentioned in Buist's *Catalogue*.

Buddlea Lindleyana; Chionanthus virginica; Clethra alnifolia; Crataegus punicia pleno; Fagus purpurea glabra; Robinia Bessoniana; Viburnum lantanoides; Virgilia lutea; Stuartia virginica.

[All are quite hardy, except Buddlea Lindleyana, which generally gets killed to the ground in Philadelphia. The Aralia alluded to, is probably A. spinosa, and quite hardy. Both species are spiny. The Tree-Box and Red Cedar, are both small growing evergreens, as hardy as the Juniper, and, we think, quite as beautiful.—ED.]

NOTE FROM A SOUTH CAROLINA LADY.—"I *enjoy* the *Horticulturist*, but am *stupid* to learn how to treat my pear-trees. The most flourishing are those I trimmed most carefully, and have not even a bud, and those I let alone bloom profusely, and then *grow*, instead of producing fruit."

Try the experiment of root pruning, or occasional removals.

'HAVE PLANTS THE POWER TO CREATE?—(J. T. Plummer). Our correspondent is evidently getting angry, without reason. Had we intended any discourtesy, we could have shown it better by withholding the publication of his letter altogether. What we wished to impress on the mind of our correspondent was, that there is really nothing known about the subject of which he inquires. Observation has shown that there are, occasionally, certain substances found in plants, and of which no trace of the elements they are composed of, can be found in the soil or atmosphere surrounding it. Lindley, and other physiologists, "infer" (that is, they consider it probable) that, by some vital process which they do not profess to understand, the plant has the power of creating that substance—not "out of nothing," absolutely, but out of nothing that we know of. What is wanted further, is not more opinions, but more facts. The question is, how are these substances formed? And we respectfully submit to our correspondent whether he has offered anything towards an elucidation of it? In our former comments, we had not so much our correspondent's communication in view as the general fact that we have, most of us, too great a tendency to criticize the experience of others, and too little inclination to observe and experiment for ourselves. We trust our correspondent will pursue the subject further; our columns shall always be open to any discoveries he may make in relation to it.

EXTENSIVE STRAWBERRY CULTIVATION.—The Baltimore *American Farmer* gives the following account of strawberry cultivation near Annapolis, Maryland, exceeding anything we now recollect: "Our Anne Arundel County friends can claim a pre-eminence in fruit culture, which, both as to quality and quantity, entitles them to honorable distinction. It is not many years since their system of cultivation was introduced, but we find now, within a neighborhood of a few square miles (as nearly as we could ascertain), some *six hundred acres*

of land planted in strawberries, and producing scarcely less than *twenty thousand bushels*. A portion of the ground is not in bearing, being newly planted this spring. During the height of the picking season (which lasts some two to three weeks), about *twelve hundred* hands are constantly picking. About forty two-horse wagons are constantly running to Baltimore and the Philadelphia Steamboat Landing, making two loads each, or eighty loads a day, and taking away, daily, fifty thousand quart boxes of the berries, or about fifteen hundred bushels.

"Of this large business, more than one-half is done by four persons: Mr. Rezen Hammond, has about one hundred acres in bearing; Mr. Crisp, about eighty acres; Mr. Joseph Bryan, about eighty; Mr. William Linthicum, about fifty acres—making more than three hundred. We found, both at Mr. Hammond's and Mr. Bryan's, some two hundred hands picking. Mr. Richard Cromwell, and others, have crops of twenty-five or thirty acres, their cultivation being more divided between this and other crops.

"The method of management is, to plant the runners in spring, as soon as the ground is in working order, on ridges thrown up at a distance of four feet, and about eighteen inches apart on the ridge. They are kept well worked till about August, by which time the runners are taking possession of the ridge. They come into full bearing the following season, and continue for one or two seasons longer, according to circumstances; usually they are left in bearing about three seasons. Sometimes the clover and other grasses take possession of the ground to such an extent, that it is expedient to return to a cleansing crop after the second year. Mr. Hammond does not manure for his strawberries. The several cleansing crops are well matured in the hill with stable manure, street manure, &c. Manuring for the crop, he thinks, brings in the clovers too rapidly. The yield, per acre, is about an average of a thousand quarts, and the net price it is difficult to determine. The expenses attending the business are large. Mr. Hammond requires for getting his crop to market, six two-horse wagons, each team worth at least four hundred and fifty dollars, and six hundred chests, with boxes, worth three and a half dollars each. The picking costs a cent and a half a quart, where the pickers furnish their own provisions, and a cent a quart where the employer furnishes. The crop of this neighborhood goes mainly to the Philadelphia markets. The team is not to be charged exclusively to the strawberry crop, for they do all the work of the farm."

BLACK PRINCE STRAWBERRY.—This is the earliest strawberry in England, and if so in America, should be grown as a first crop.

THE SMYTHE STRAWBERRY.—Rumors of new, good, and better strawberries, will ever be the rule rather than the exception. It requires caution to handle the strawberry subject, there are so many interested in the introduction of new varieties. One friend writes to caution us how we commend this or that fruit, and reads us quite a lecture for telling our readers that we prefer the Marilandica to any we have heretofore known. He does not even intimate that he has seen this fruit; now we have, and, moreover, having no interest whatever in *anything* that is for sale, we can afford to be impartial, and express a free and honest opinion. But this is not the theme we set out upon.

A valued friend (William N. White, of Athens, Georgia) gives us a pleasant gossip about a new berry. He says: "Our two years' wonder in this fruit is what we call, provisionally, the Smythe Strawberry, a hermaphrodite variety which came into bearing last year. It was brought by a Georgian lady from England, three or four years since. She shared her plants with two friends, one of whom (Mrs. Smythe) alone succeeded in saving three plants, and a modest-sized bed came into fruit last season. It was so productive as well as excellent, that all who saw it were astonished; and I procured a few plants, last fall, to

send to Mr. C. Downing, in hopes the original name could be restored. The few English varieties we have hitherto tried (such as Bicton Pine, British Queen, Black Prince, &c.) have not succeeded. The Smythe was the earliest to ripen both seasons, and bore three weeks after all other varieties are gone, and, at the same time, in profusion. The foliage is dark-green; leaflets, large, on short footstalks; fruit-stems, stout and erect.

"Hovey's Seedling, and most of the old kinds, were, this season, more or less cut off by our spring frosts. The Smythe, Walker, Moyamensing, and Bishop's Orange, were little injured, and bore profusely.

"Not much fruit here, except apples, of which there is a moderate crop. Grapes are unusually promising."

COLUMBUS, GEO., July 5, 1857.

DEAR SIR: Allow me to answer an inquiry respecting Mr. Peabody's new strawberry. I visited Mr. P.'s grounds early in March. His bed of the new variety (about three acres) was literally covered with bloom. The runners had not been removed the previous year, so that the prospect for an immense crop was very flattering; some fruit had set, and it was then evident to me that it would prove a very fine variety; but this crop was entirely cut off by the very severe frost of 15th of March, and, through the remainder of that month and April, we had continuous frost—fatal to the strawberry blossom. I again saw the bed about 10th of June, when there was a tolerable crop of very fine fruit, and could have selected many trusses from the bed fully equal to those represented in the published plate, and have this day (July 4) brought home from Mr. P.'s a basket of fruit of large size and great beauty, notwithstanding a severe drought prevails, so that corn is suffering badly; and there is ample evidence that the bed would continue in bearing some time yet, if thoroughly watered.

As a market variety, it is a valuable acquisition, bearing transportation well to unprecedented long distances. It is early, of good size, remarkably fine flavor, hermaphrodite, and a great bearer. It is not a hautboys variety, however; it more resembles Burr's New Pine, but is more sugary.

It affords me pleasure to record this as no humbug, but, on the contrary, worthy of full confidence, at least, in the Southern States. Respectfully yours, GEO. KIDD.

SARATOGA SPRINGS, June 30.

EDITOR HORTICULTURIST: I have just been reading the *Horticulturist*, and I see in it a query as to the Rhode Island Greening, in 1856, and I take the liberty of suggesting that the little care taken in grafting as to the stocks upon which the grafts are set, seems to me to have the effect of deteriorating many of the choice apples. I have had a sort of theory, for some time past, that the original stock affected the product of a graft; thus I think I can very easily tell whether a "gillyflower" was grown from a graft set in a sour or sweet apple stock. The one from the sour stock will be much more juicy (it seems to me) than one grown on a sweet stock. If there is such an effect, why may not continued grafting on to miscellaneous stocks in time deteriorate the apple until the descendant will be recognized as a new variety? I am no practical horticulturist, to experiment in this matter, but I think the experiment might be tried by some one who has an abundance of trees, and the result reported in a few years, very much to the edification of fruit growers. Say a gillyflower graft was set, this year, on a hard, sour apple stock, and a companion graft from the same tree, set on a sweet stock; next year, or as soon as grafts could be procured from these grafts, work them again on other branches of the same tree, and so keep grafting from the grafts to the same, and other trees of like nature, and others of various sorts. In the course of five or six years, the grafts would come into bearing, and the matter would be

tested. If my theory is right, some means will have to be taken to bring back the favorite apples to their original flavors, or we shall have to go back to seedlings. Hoping you will find a grain of wheat somewhere in this bushel of chaff,

I am yours, &c., as ever a friend to horticulture, E. J. Huling.

Remarks.—The hardiness and vigor of fruit-trees are well known to be affected by the quality of the stock. It is possible, the properties of the fruit may also vary; but we consider that quite doubtful. Our friend's letter is, however, very suggestive. We cannot have too many experiments and observations. Divers into the deep sea of knowledge, we may bring something to the surface even more valuable than we anticipate.

Linnæus Rhubarb, or Myatt's Linnæus.—As rhubarb, or pie plant, is an article coming into general use, we have a word to say in favor of Myatt's Linnæus, because it appears not to be so generally known as it ought to be. It originated with Mr. Myatt, an extensive grower in England, and is deserving of particular notice and general cultivation.

We have tried many kinds; none, however, have proved equal to this. Collossal was a favorite for a long time (and still is a good sort), but the Linnæus is much superior to it or any other variety we have yet seen. It is free from the extreme acidity, coarse and stringy pulp, which by many is the great objection to Victoria, and other large sorts; it possesses a fine, aromatic flavor, requires much less sweetening, and forming, when cooked, a fine, uniform pulp; it needs no peeling or stripping to fit it for cooking. The plant is hardy, very vigorous, with long, heavy stalks, and more productive than any other variety we are acquainted with. It is the most valuable kind for family use, and should have a place in every private garden. For profitable marketing it is unsurpassed, and we observe dealers are growing it for this purpose. Plants are also offered for sale at moderate prices. I trust this healthful luxury will soon be abundant, and cheap enough that all can use it.

Chas. Downing.

Calendar of Operations.

AUGUST.

THE VINEYARD.

BY R. BUCHANAN, CINCINNATI, OHIO.

But little work has to be done this month, except to keep the weeds down by the plough or the hoe, and to tie up straggling branches. Train the bearing canes, for next year, from the top of one stake to the other, and cut off, with a knife, any lateral shoots from the axils of the leaves, below the tops of the stakes; those above may be left.

It is not best to stir the earth in the vineyard deep, as that might induce "rot" in the grapes. The season for this disease is over toward the latter end of this month, or when the grapes begin to color a little.

N. B.—This season is three weeks later than usual, and the mildew (which generally appears late in May, and up to the middle of June) has, within the last week, destroyed about half the bunches on the vines in most of our vineyards; but sufficient were left (if nothing destroys them) to yield a moderate crop. Cold, wet weather, succeeded by hot and sultry days, causes mildew.

BY WILLIAM SAUNDERS.

Vegetable Garden.—Both science and practice agree in the advantages resulting from a thorough pulverization of soils. Agriculturists are beginning to recognize this fact in their endeavors to discover some more efficient implement than the plough, and *rotary diggers* (suggested, many years ago, by Mr. Hoskyns, in his *Chronicles of a Clay Farm*) are now being experimented with. In like manner, horticulturists are preferring the digging-fork to the spade in all operations for which the latter is applicable. For all ordinary digging

purposes, it is far superior to the spade, requiring less manual exertion; indeed, it can be operated so expeditiously, that it may economically supersede the hoe for destroying weeds, and cultivating between the rows of garden crops. I have used it for many years to stir and loosen the soil during summer, and have found great benefit from the practice. Weeds are kept under, and the soil left in a condition to absorb and contain rains—an important matter, as the sudden and heavy showers of summer run off by the surface, unless the soil is thus prepared.

Now is a good time to sow seeds of beet, &c., to supply tender vegetables late in the fall. Peas may still be sown; winter spinach, and "sprouts" for use next spring, should be sown this month; lettuces and cabbages may now be attended to. Keep the growing crops clean, and stir occasionally the soil round them, to prevent the surface from "baking."

Grapery.—In cold houses, the fruit will be coloring. Badly colored grapes seem to be the rule; instead of being black, they are only red. Excessively rich borders, a high night temperature, badly constructed houses that will not admit of sufficient ventilation, and rigid adherence to injudicious systems of pruning, are, separately, sufficient causes of failure. What can be expected, then, when they are combined? Curvilinear houses are seldom constructed with sufficient top ventilation; in the endeavor to reduce the temperature, the atmosphere is saturated with moisture. The high temperature to which the branches are exposed, and the rich soil in which the roots are placed, tend to luxuriant growth. This growth, to accord with the system of pruning, must be constantly reduced. A degree of excitement is thus maintained, altogether at variance with natural growth, as is shown by deficient and immature crops. Cultivators should endeavor to acquaint themselves with the principles upon which their operations are founded; they would then be enabled to see through the *rationale* of their practice. Those who follow a routine are simply empirics, and, in gardening matters, their name is legion.

Greenhouse.—There is much interest attached to the raising of seedling plants; even when the seeds are saved at random, there is always a chance of producing something superior, but under careful hybridization, it is almost a certainty. Seeds of calceolarias, pansies, pelargoniums, and cinnerarias, should be sown this month, so that the plants may be strong before winter. Small seeds, such as the first mentioned, require to be very slightly covered with soil; and, in order to obviate frequent waterings, which is likely to disturb them, cover the pot with a square of glass, and sprinkle a little sand over it, taking care to remove it before the young plants become etiolated. Roses for winter flowering should be lifted from the flower borders and potted; prune the branches, and place them where they will be shaded for a few weeks, until fresh roots are formed; then they may be fully exposed to sun. Fine flowering plants are procured in this way. Cuttings of roses, pelargoniums, verbenas, &c., will root freely at this season, out of doors, if sheltered somewhat from the sun. Success will be more certain, if planted in a frame having a northern exposure, where they can be protected by a sash, if found necessary, during heavy rains, &c.

Window Gardening.—Parlor Plants.—The greatest difficulty in the management of plants in dwellings, is the absence of sufficient moisture in the atmosphere; uniformity of temperature may also be mentioned, and want of fresh air. Large foliaged plants are the least satisfactory. The cactus family are well adapted, so far as constitution, but they have little to recommend as floral ornaments. The epiphyllums and cereus sections, it is true, have magnificent flowers, but the greater proportion of mamillaria, opuntia, melocatus, are more curious in form than flower. Similar in habit and growth are the various aloes; A. nigra, A. humilis, A. variegata, and A. retusa, may be mentioned as well adapted for this mode of cultivation. Sempervirums and mesembryanthemums require similar treatment, and some of them have beautiful flowers. These are eminently cleanly plants, requiring little water, and never making a *mess* with falling leaves and buds. The cyclamen are most desirable, as also the oxalis; there are many beautiful species of both these tribes. The leaves should be kept clean, by syringing or sponging them individually. As a matter of cleanliness, saucers are set under the pots containing the plants; these should be emptied occasionally of water. Even plants that delight in moisture will not thrive, if it stagnates about their roots.

TEA CHINA

Souvenir d'Elise.

MRS. ALMY'S HOTEL, HAVANA, WHERE DR. KANE EXPIRED.